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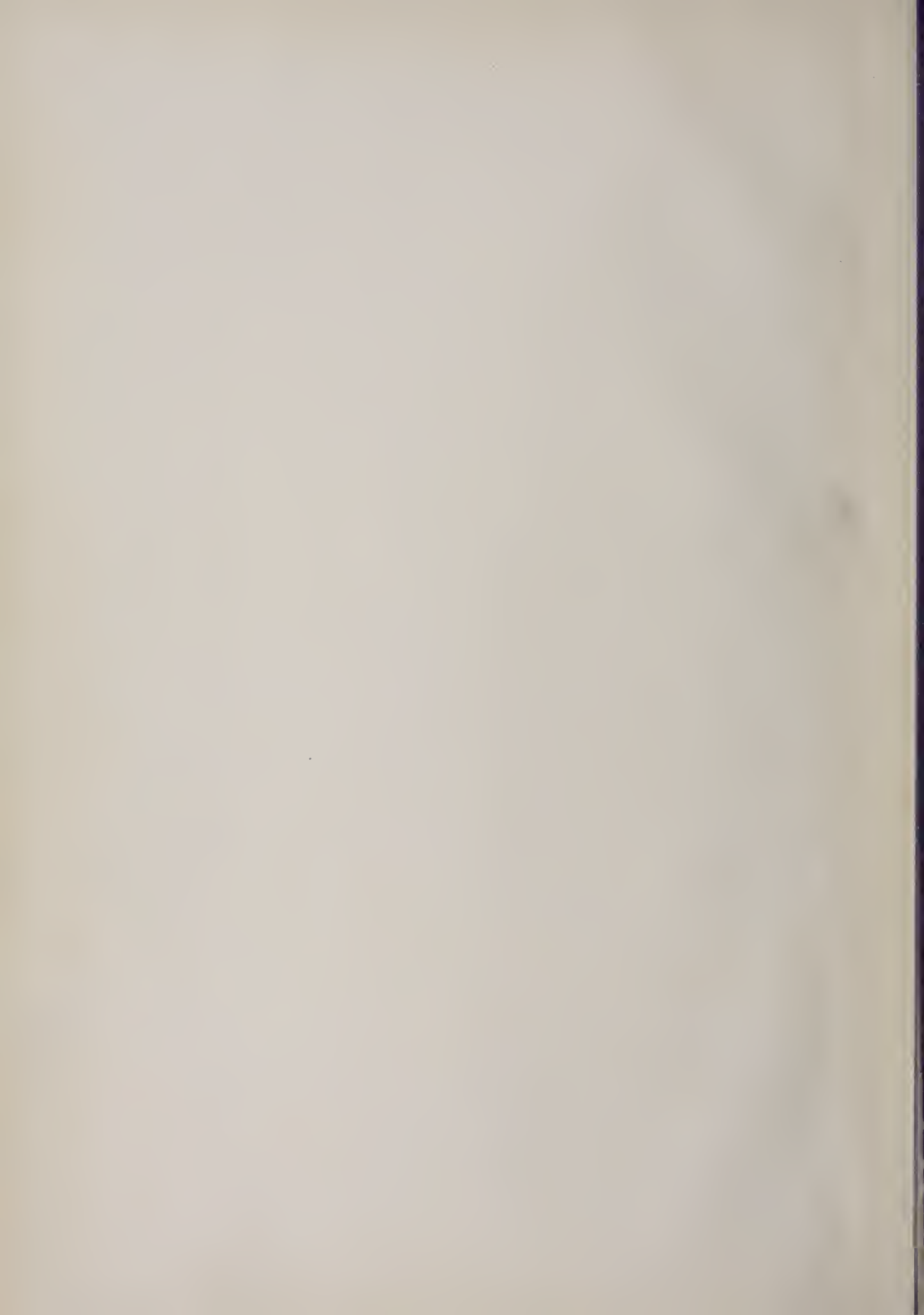
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**DELAWARE STATE
MEDICAL JOURNAL**

Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31

JANUARY, 1959

NUMBER 1

MODERN PHILOSOPHY OF APPROACH

31
1959

IN PSYCHIATRIC PROBLEMS

Complete Contents on Page iv

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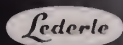
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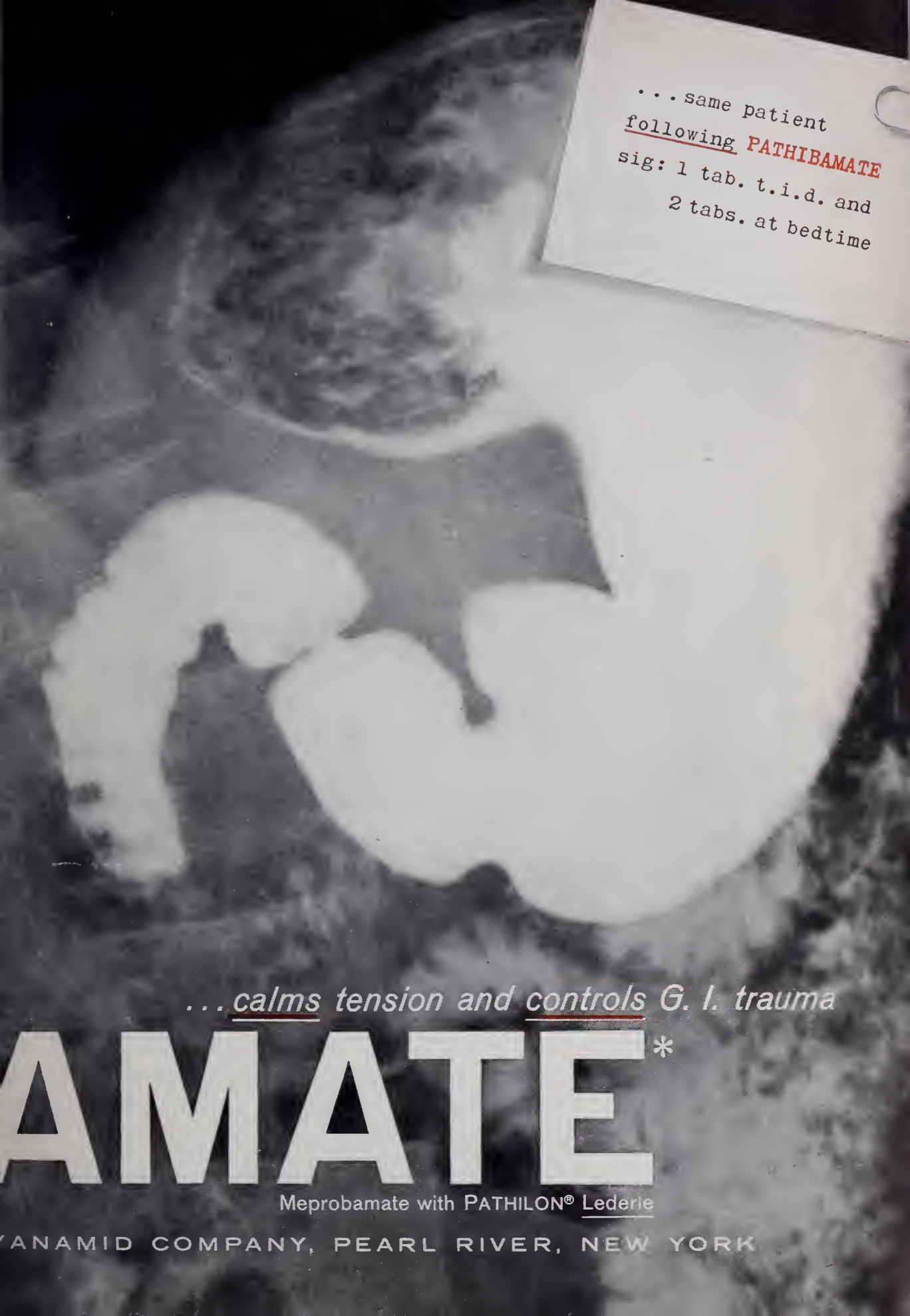
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superior control of
common Gram-positive
infections



in the
patient:

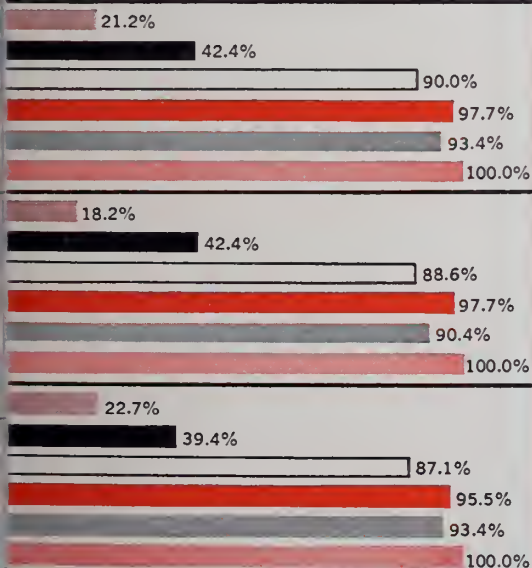
95% effective in published cases¹⁻⁸

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
infectious asthma	44	38	—	6
Otitis media	31	29	2	—
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	—
Abscesses	51	43	8	—
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	—
Pyoderma	19	19	—	—
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	—
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	—
Urethritis with gonorrhea or cystitis	8	8	—	—
Pyelonephritis	4	1	—	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	—	—
Miscellaneous	42	30	8	4
(adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)				

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Antibiotic A 2-10 units
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percentage of organisms inhibited by the range of concentrations listed for each antibiotic.

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Rapidly absorbed—stable in gastric acid,⁷ TAO needs no retarding protective coating

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References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karellitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

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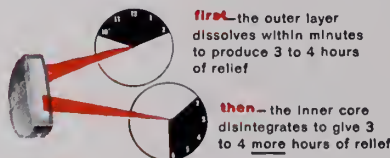
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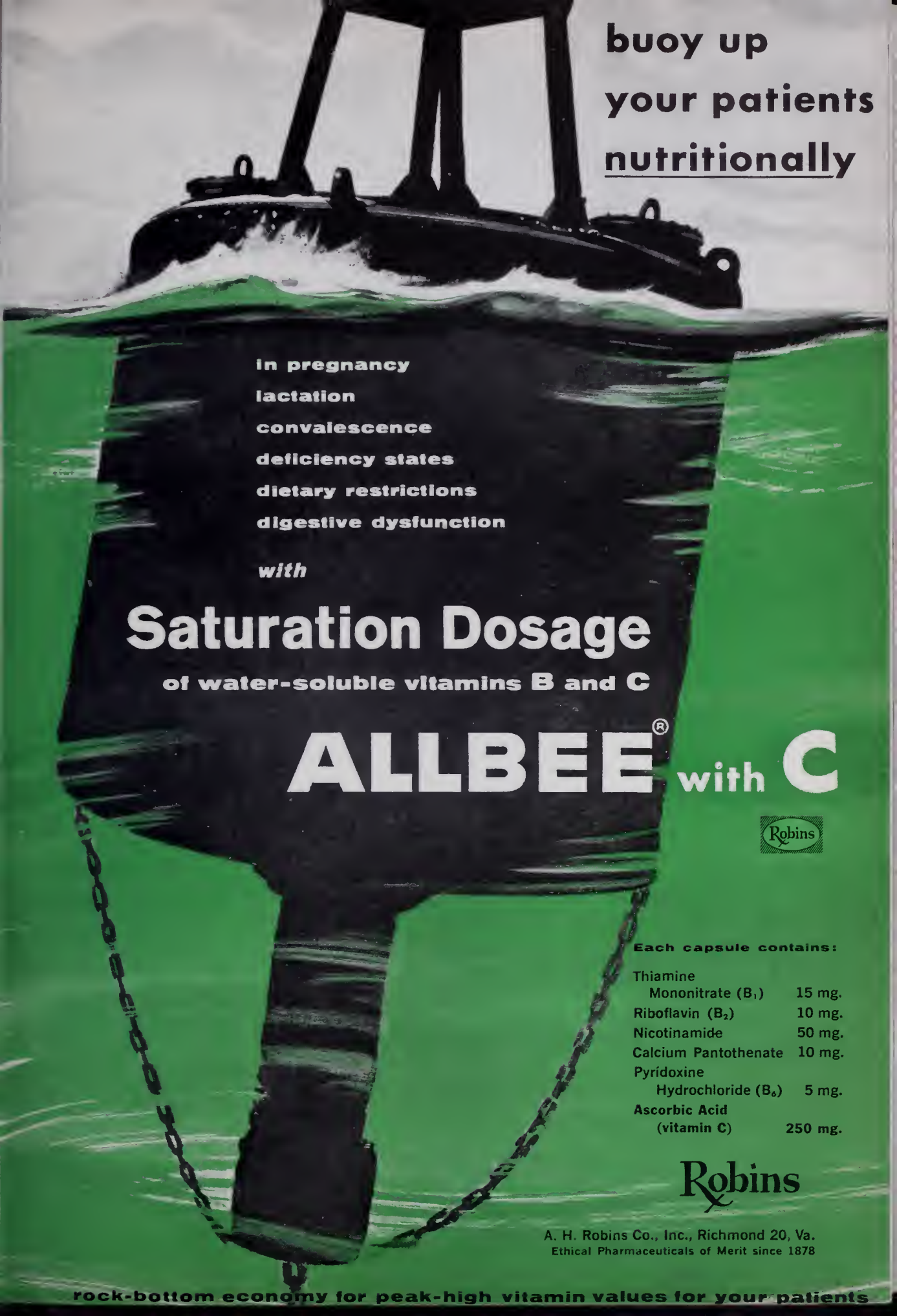
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Hydrochloride (B ₆)	5 mg.
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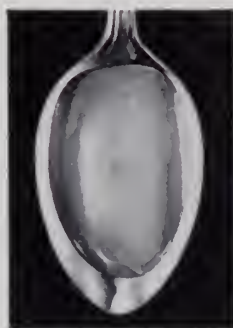
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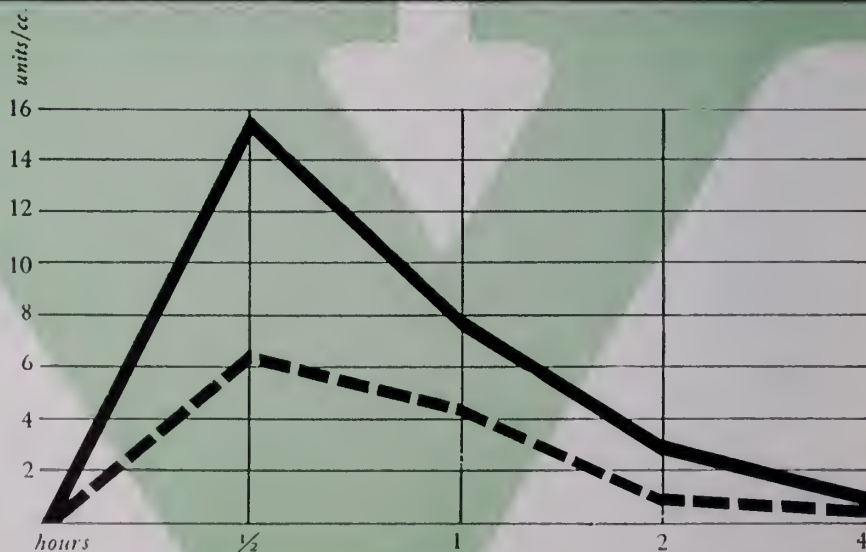
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references:

1 Griebble, H.G., and Jackson, G.G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958

2. Editorial: *New England J. Med.* 258:48-49, 1958.

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REFERENCES:

1. Eisenberg, B. C.: Clinical Medicine 5:897-904 (July) 1958.
2. Feinberg, A. R., et al.: J. Allergy 29:358 (July) 1958.
3. Robinson, H. M., et al.: So. Med. J. 50:1282 (Oct.) 1957.



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and relieve the
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(1) Estimate based on epidemiologic study by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122, Jan. 1933.



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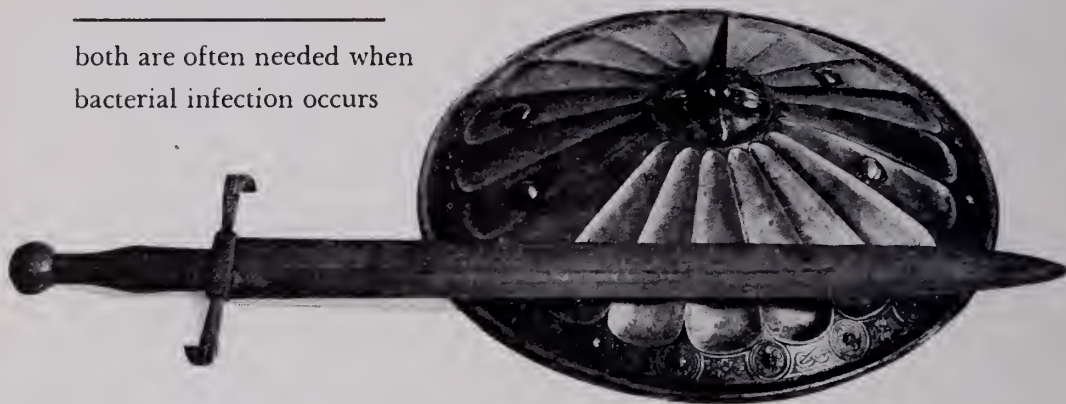
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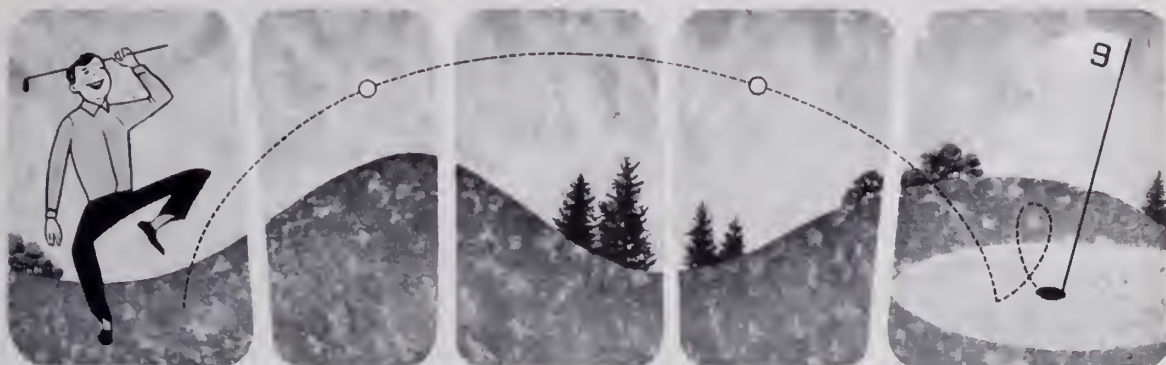
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1. Griffith, R. S., et al.: Antibiotic Med. & Clin. Therapy, 5:609 (October), 1958. Note: Peak levels with the oral erythromycin tablets (thirty-three dilutions) were not observed until four hours after administration. 2. Data from Griffith, R. S.: Antibiotics Annual, p. 269, 1954-1955.

COMMITMENT PROCEDURES IN DELAWARE LEGAL RESOURCES AND RESPONSIBILITIES AND MODERN PHILOSOPHY OF APPROACH IN PSYCHIATRIC PROBLEMS

M. A. TARUMIANZ, M.D.*

EMERGENCY MANAGEMENT OF THE ACUTE PSYCHOTIC

Alertness to behavior changes, whether sudden or gradual, and referral for treatment in the early stages of psychosis undoubtedly would shorten the period of mental illness for many patients and avert the tragedy that may be caused by a person mentally ill or so seriously disturbed emotionally that he is not responsible for his actions. The problem of emergency treatment of the acute psychotic fortunately is less serious in the present day than in the past. Both public and private facilities have been developed to care for and treat the mentally ill. There is still some reluctance in families and even among physicians to refer persons for admission to mental hospitals. This reluctance has its roots, to a large extent, in the general unfamiliarity of the public with modern methods and facilities for the care and treatment of psychotic patients. The State of Delaware for nearly seventy years has been seeking to provide as adequately as possible for her mentally ill citizens.

Early management. Prior to 1889 in the State of Delaware, as in the other states of this nation, the indigent insane (insane being the term in use for the mentally ill) were cared for in the County almshouses or poorhouses. An Act of the 82nd General Assembly of Delaware on April 25, 1889,

established the Delaware State Hospital for the Insane. The first meeting of the Board of Trustees was held on July 10, 1889. According to the First Biennial Report of the Board of Trustees of the State Hospital, dated January, 1891, "When this Board took charge of the Plant purchased from the Trustees of the Poor of New Castle County, they received 10 acres of ground, a large building scantily furnished, in need of repairs and a general overhauling. A plant absolutely unfit in its then condition for a modern hospital of any kind, and twenty-eight thousand dollars in money to carry on the workings of the institution in every detail up to April 25, 1891."¹

During August of that year Mr. John Guthrie, the Superintendent of the New Castle County Almshouse, and Dr. Howard Ogle, "one of Wilmington's most respected physicians," administered the affairs of the hospital until the arrival of the newly appointed Superintendent, Dr. David D. Richardson, who came from the Philadelphia Hospital.

In his first biennial report Dr. Richardson paid tribute to Delaware's history-making action, in the following words: "It gives me great pleasure, gentlemen, to congratulate

* State Psychiatrist for the State of Delaware.

¹ Biennial Report of the Board of Trustees of the Delaware State Hospital for the Insane, Mercantile Printing Co., Wilmington, Delaware, January 1891, p. 6.

late you that Delaware is the first to accept the indigent insane, as her wards, and to make State provision *for all of them*. There is not another commonwealth in the United States where the *entire insane population*, is gathered into buildings, provided and supported by the State."²

The first Board of Trustees stated as their objectives to have in Delaware "an institution that shall present such advantages for the treatment of these distressing cases, as shall be exceeded by the advantages presented by no other such institution in the country, such an institution as shall fittingly invite to its care and guardianship any citizen of the State who may unfortunately need such care, be his station in life among the most exalted or among the poor and lowly."³

On August 1, 1889, soon after the opening of the hospital, 99 patients were admitted, all New Castle County citizens, who had been in the New Castle County Almshouse. On September 3rd, 12 were admitted from Sussex County, and on September 11th, 18 from Kent County. By the end of the calendar year, 1890, a total of 267 patients had been admitted to the State Hospital. Of this number 105 were discharged during the biennium. Fifty-five were discharged, "restored" (or recovered), 15 improved, 4 unimproved, 2 not insane. Twenty-nine had died. A total of 162 remained in the State Hospital on January 1, 1891. The average daily population during the first biennium was 153, the daily population ranging from 94 to 174.⁴

The State Hospital population continued to grow. On October 1, 1892, there were 199 patients; on October 1, 1894, 239 patients. The Board of Trustees at the end of the third biennium reported serious overcrowding at the State Hospital, which by legislative action during 1891-92 had been given the title Delaware State Hospital, at Farnhurst.

By this time (December, 1894) the first Superintendent, Dr. D. D. Richardson, had left to become Superintendent at the hos-

pital then known as the Norristown Asylum, in Pennsylvania. Dr. William H. Hancker, Assistant Physician at the Delaware State Hospital, was elected to succeed his stepfather as Superintendent.⁵

Through the years the population of the Hospital continued to increase. In reporting to the Governor of Delaware at the close of the Fifth Biennium (December, 1898), the Trustees commented regarding the increasing number of patients. "We repeat, this additional number does not denote any increase of the ratio of insane to sane people, but is the natural increase we may expect in a prosperous commonwealth, with an increasing population and one on the main line of travel between the extreme limits of a great country, this condition alone being responsible for frequent additions to the Hospital population, insane strangers often being thrust upon the charity of the State."⁶ New buildings were built and new departments added for more effective study and treatment of the patients. By the end of the Sixteenth Biennium (December, 1920), the Delaware State Hospital now had in addition to the original building, which was known as Main Building, the Annex Building, Black Cottage, Tuberculosis Building, Swift Building, the greenhouse, the laundry.

On May 2, 1918, the present Superintendent was appointed to the medical staff of the Delaware State Hospital in the position of Assistant Physician. During the seventeenth Biennium he became Medical Director. Because of ill health, Dr. William Hancker, on April 1, 1926, requested to be released from the position of Medical Superintendent of the Delaware State Hospital, in which capacity he had served since 1893.

The Board of Trustees in granting Dr. Hancker's request appointed him Superintendent Emeritus and named as the active head of the Delaware State Hospital, M. A. Tarumianz, M.D. It has been my privilege to continue to serve the State of Delaware and its citizens in this position for more

² Ibid., "Report of the Medical Superintendent," p. 10.

³ Ibid., "Report of the Board of Trustees," p. 5.

⁴ Ibid., p. 11.

⁵ Third Biennial Report of the Board of Trustees of the Delaware State Hospital, at Farnhurst, The John M. Rogers Press, Wilmington, Delaware, Dec., 1894, p. 9.

⁶ Fifth Biennial Report of the Delaware State Hospital at Farnhurst, December, 1898, The John M. Rogers Press, Wilmington, Delaware, p. 5.

than forty years. In these four decades there have been many changes.

Community resources for emergency management. Prior to 1929 there were no community resources for emergency management of persons mentally ill or so seriously disturbed emotionally that they represented threats to themselves or to the community. There were no preventive facilities in Delaware and no psychiatrists in private practice.

On August 12, 1929, the Mental Hygiene Clinic began its work. By legislative action which became law on April 8, 1929, the State Board of Trustees of the Delaware State Hospital was authorized to establish a Mental Hygiene Clinic to examine all school children within the State who were two or more years retarded, "to make a continuous survey and examination of all feeble minded," as the mentally retarded were then called. The function of the Mental Hygiene Clinic was further defined, "to observe, study, and treat" any person charged with any offense or subject to any Court in the State, if requested to do so by the Judge or Judges, and on request to extend psychiatric services to all social agencies and institutions of the State as well as general hospitals "for the purpose of the discovery of mental disorders."⁷ The Mental Hygiene Clinic was also given the power of applying for the commitment of any person to the State Hospital under the existing laws. The Superintendent of the Delaware State Hospital was designated the "directing head" of the Mental Hygiene Clinic, also was given the title and duties of State Psychiatrist and Criminologist.

With the establishment of the Mental Hygiene Clinic, Delaware became the first state in the country to provide on a statewide basis psychiatric preventive outpatient service. In the second year of the Mental Hygiene Clinic's existence preventive psychiatric service was offered Delaware citizens in six localities—Farnhurst, Wilmington, Dover, Milford, Georgetown, and Smyrna. Later the program was more centralized, but mental hygiene clinics con-

tinued to be held at Farnhurst, Wilmington, Dover, and Georgetown. Since 1955 when the Hospital for the Mentally Retarded became the responsibility of the State Board of Trustees and was placed under the supervision of the Superintendent of the Delaware State Hospital, the Mental Hygiene Clinic for Sussex County had been located at Stockley, Delaware. The Kent County Mental Hygiene Clinic is at Dover. The Farnhurst and Wilmington Clinics provide preventive psychiatric service for New Castle County.

Gradually general hospitals have opened psychiatric units. Private psychiatrists have established practice in and around Wilmington. The Wilmington Child Guidance Center, Inc., established in 1953, provides psychiatric treatment for children between the ages four to sixteen years. At present the northern segment of the State is fairly well supplied with all essential facilities for the care and treatment of the mentally ill and emotionally disturbed. In the lower counties, however, the citizens who need psychiatric service must depend on the Mental Hygiene Clinics or travel many miles to reach private psychiatric care in Wilmington.

The Psychiatric Observation Clinic at the Delaware State Hospital is another facility provided by the State of Delaware for the emergency management of acute psychotics. In the fall of 1927 plans were made for establishing this unit as a separate building located at some distance from the other patient units. The Legislature of 1929 appropriated sufficient funds for the building. On February 12, 1931, the Psychiatric Observation Unit was completed. It is a completely self-contained and self-supported unit providing accommodations for 38 patients, including both sexes. The cost of the care in this unit is not provided by the taxpayers. Here patients are received, observed, and treated for a period before being officially transferred to the Delaware State Hospital. Patients are discharged from the Psychiatric Observation Clinic without being admitted to the Hospital proper if they respond rapidly to the treatment given in this unit.

⁷ *Twenty-first Biennial Report* (From July 1, 1928, to June 30, 1930) of the State Board of Trustees of the Delaware State Hospital at Farnhurst, Delaware, November 15, 1930, "Mental Hygiene Clinic," p. 51.

On January 2, 1957, the newly remodeled unit for receiving patients was opened on the third floor of the Main Building of the State Hospital. This section provides accommodations for 23 male and 22 female newly admitted patients.

A special unit for patients needing medical and surgical care was opened on the second floor of the Main Building. The section for male patients opened in December, 1956, and that for female patients in the fall of 1957. The medical-surgical unit accommodates 24 males and 22 females. This unit is under the immediate supervision of a staff of three internists who serve on a part-time basis.

Within a few months the new building for acutely ill and convalescent patients will be completed. This building will provide facilities for intensive and convalescent treatment for 175 patients of both sexes.

One of the most difficult problems in the mental health field is the care and treatment of children who are psychotic or so seriously disturbed emotionally that their presence in the community is no longer safe for themselves or others. There has been steadily increasing interest in this problem, but to date there are still few facilities in the United States, either public or private, offering care for the mentally ill or emotionally disturbed child.

By legislative action in 1947 the General Assembly of Delaware established at Delaware City, Delaware, the Governor Bacon Health Center under the State Board of Trustees of the Delaware State Hospital at Farnhurst and its Superintendent. The Health Center opened in November, 1948, receiving its first patients early the following month. Facilities are available for 150 children between the ages three and eighteen years who need residential treatment because they are pre-psychotic, mildly psychotic, or emotionally maladjusted to a serious degree.

The Governor Bacon Health Center at present is also providing care and treatment for (a) "handicapped or crippled children, including spastics, cardiacs, and those afflicted with infantile paralysis;" (b) male

and female alcoholics and drug addicts without frank psychosis; (c) male and female aged persons who are bedridden and in need of constant nursing care and are without frank psychosis; (d) male and female epileptics, both adults and children, who are without psychosis. The Governor Bacon Health Center has a total rated capacity of 425. During the fiscal year 1957-58, 176 emotionally maladjusted children were in residential treatment, 46 having been admitted for the first time and 5 readmitted.

Mention has already been made of the Hospital for the Mentally Retarded, which is located at Stockley, Delaware, and which on July 1, 1955, came under our supervision. Through the mental hygiene clinics mentally retarded persons are referred for residential care and treatment at the Hospital for the Mentally Retarded. Mentally retarded children whose needs can be met in the community are referred to special classes in the public schools provided for the educable and trainable children.

A program of so-called day care centers for severely retarded children, those with I.Q. below 30, was established by the Legislature during the past fiscal year. This program is under the State Board of Trustees of the Hospital for the Mentally Retarded. The first of these centers was opened in Georgetown, Delaware, on February 3, 1958, with six children. The second center opened on March 27th at Dover and has had five children attending. On April 28th a day care center started operations in Wilmington with eighteen of the twenty-one children expected and has had a constant enrollment of twenty. The most recently opened day care center is at Seaford, beginning on June 25th and administering to four children.

The day care centers are supervised by a well-trained educator and a registered nurse. The Clinical Director of the Mental Hygiene Clinic is the Consultant, administering to their physical and mental needs as well as supervising the administration of medications. The program is not confined to the school year but provides all year day-time care and such training in basic

habits as can be used by these severely retarded children.

Commitment procedures. The legislators through the years have shown great interest and astuteness in providing care and treatment for Delaware's share of the Nation's Number One problem—the mentally ill and emotionally disturbed. A study of the laws regarding admission and commitment of patients to the Delaware State Hospital as well as to the two other state supported psychiatric institutions attests to this. The procedures have been amended from time to time to make possible the admission of patients to the hospitals in a manner which safeguards the community but at the same time considers the best interest of the patient.

Delaware State Hospital. There are three types of procedures by which patients are admitted to the Delaware State Hospital. These are (1) admission to the Psychiatric Observation Clinic, (2) voluntary admission of patients to the State Hospital proper for observation, study, diagnosis, and treatment on temporary basis, and (3) involuntary permanent detention.

Admission to the Psychiatric Observation Clinic. Patients are referred by physicians for admission to the Psychiatric Observation Clinic. The Delaware Code makes the following provisions for this type of admission.

- (a) Any physician licensed to practice within this state, may, upon compliance with the rules and regulations of the State Board of Trustees made from time to time, cause any patient under his care or treatment, who is suffering from mental or nervous disease, to be admitted to the psychiatric observation clinic for a period not to exceed four weeks at any one time for observation, study, diagnosis, and treatment.
- (b) Any patient admitted shall remain in the psychiatric observation clinic for a further period or periods not to exceed four weeks duration each, upon the request of the physician upon whose application such patient was

admitted to the clinic and with the approval of the State Board of Trustees.

- (c) Any person who is admitted into the psychiatric observation clinic shall not be allowed to depart therefrom prior to the expiration of the four weeks period, or any extension thereof, in case any such extension has been made, without the consent of the Superintendent of the Delaware State Hospital.
- (d) Upon the admission of the patient to the psychiatric observation clinic, the clinic shall observe and study the patient and report its findings to the State Board of Trustees of the Hospital. If the report of the clinic is that the patient should be permanently admitted to the Hospital because of mental or nervous disease, the procedure for admission to the Hospital prescribed in section 5124 of this title shall be followed.⁸

Since the enactment of the laws for voluntary admission, the above procedure is not in practice. All patients admitted to the Psychiatric Observation Clinic are voluntary admissions at the request of the physicians or families of the patients.

Voluntary admission. Often persons suffering from mental diseases or severe emotional disturbances seek admission to the State Hospital of their own volition. This has been true for a long time. As far back as 1896 the Superintendent of the Delaware State Hospital reported to his Board of Trustees that a number of persons had voluntarily sought admission to the Hospital.⁹ He asked for legislation such as exists in the statutes of Delaware today. The present law regarding this type of admission follows.

- (a) Any person under the care and treatment of a physician licensed to practice medicine within this State, or any person 16 years of age who is

⁸ Delaware Code, 1953, Title 16, Chapter 51, Subchapter 2, Section 5122, Paragraphs (a)-(d).

⁹ Fourth Biennial Report of the Board of Trustees of the Delaware State Hospital at Farnhurst, Dec., 1896. The John M. Rogers Press, Wilmington, Delaware, 1896, pp. 15f.

suffering from mental or nervous disease may, subject to the payment of charges for care, maintenance, and support as provided in section 5127 of this title, and under compliance with the rules and regulations of the State Board of Trustees, be admitted to the State Hospital for a period not to exceed four weeks at any one time, for observation, study, diagnosis, and treatment. The admittance shall be granted upon application of such physician or, in the case of any person not attended by a physician, upon the personal application and request of such patient. No person not attended by a physician shall be admitted unless the Superintendent first determines that such person has sufficient reasoning ability to make such request for voluntary admission, and if such voluntary patient is under the age of 21 years, then, and in all such cases, the application shall be signed by the father if the father is living and has custody of the applicant, otherwise by the mother or guardian having custody of such patient.

- (b) Any patient admitted shall remain in the Hospital for a further period or periods not to exceed four weeks duration each, upon the request of the physician, the patient, or the person upon whose application such patient was admitted to the Hospital and with the approval of the State Board of Trustees.
- (c) Any person who is admitted into the Hospital shall not be allowed to depart therefrom prior to the expiration of the four weeks period, or any extension thereof, in case any such extension has been made, without the consent of the Superintendent of the Hospital.
- (d) Upon the admission of the patient to the Hospital, the Hospital shall observe and study the patient and report its findings to the State Board of Trustees of the Hospital. If the report of the Hospital is that the patient should be permanently admitted

to the Hospital because of mental or nervous disease, the procedure prescribed in section 5124 of this title shall be followed.¹⁰

In case the report of the Hospital is that a patient admitted voluntarily for observation and study should be detained for treatment, the following procedures for commitment have been established.

- (a) Upon receipt of a report, made pursuant to section 5122 (d) or section 123 (d), that a patient should be permanently admitted to the State Hospital because of mental or nervous disease, the State Board of Trustees shall summon a jury of six responsible persons to determine whether the patient is suffering from mental or nervous disease and should be admitted to the Hospital, if a jury is requested by any person related or connected with the patient by blood or marriage.
- (b) If a jury is not requested, the State Board of Trustees shall appoint a commission consisting of two qualified and licensed physicians who shall determine whether the patient is suffering from mental or nervous disease and should be admitted to the Hospital.
- (c) The jury or the commission, as the case may be, shall report their findings to the State Board of Trustees. If the report is that the patient is suffering from mental or nervous disease and should be admitted to the Hospital, such report is sufficient for the commitment of the patient, subject to the right of appeal provided in subsection (e) of this section.
- (d) No investigation by the jury or commission shall be had except in the presence of the patient. The jury or commission may take testimony and administer oaths.
- (e) The patient or any person related to or connected with him by blood or marriage, shall have the right to an appeal from the findings of the jury

¹⁰ Delaware Code, 1953, Title 16, Part V, Chapter 51, Subchapter 2, Section 5123, Paragraphs (a)-(d).

or commission to the Court of Chancery within ten days from the filing of the report of the jury or commission with the State Board of Trustees.

- (f) The members of the jury or commission shall receive such compensation as shall be fixed by general rule by the State Board of Trustees.
- (g) This section shall not apply or be construed to embrace commitments to the Hospital made by any Court of this State, as provided by law."¹¹

Involuntary permanent detention. It becomes necessary at times to commit to the Delaware State Hospital a mentally ill person without his consent, occasionally against the patient's will. The legal procedure for "involuntary permanent detention," as the law designates the procedure, involves physicians. The term "permanent detention" is used to distinguish this type of commitment from the voluntary or temporary commitment provided for in the laws already mentioned. It has never been the purpose of hospitals for the mentally ill to detain patients longer than was necessary to cure them of their illness or to improve them to the extent that they are not hazardous to themselves or to others.

The following procedure governs involuntary commitments.

- (1) A certificate shall be made and signed by at least two physicians, residents of this State, who have been actively engaged in the practice of medicine for at least five years theretofore and who shall be residents of the same county as the person alleged to be suffering from mental or nervous disease;
- (2) The certificate shall be filed with the Superintendent of the Hospital;
- (3) The certificate shall be made within one week after the examination of such person and within two weeks of the time of the filing of the same with the Superintendent;
- (4) The certificate shall be signed by the physicians, who shall also make affi-

davit to the truth of the facts and statements therein contained, which affidavit may be made before any officer authorized to administer oaths within the State.¹²

Procedure has been written into the law, making it possible for a person committed to the hospital or persons closely related to or interested in him to contest the commitment and have the person's mental condition determined by a jury. The law pertaining to this follows.

- (a) Upon the commitment of any person to the Hospital, the person committed, or any person related to the person committed within the third degree of consanguinity, or any other three persons, may present a sworn petition to the Court of Chancery at any time, setting forth the time and manner of the commitment and that he or they verily believes or believe the person committed to be a sane person, and praying that a writ issue to the sheriff of the county to determine whether the person committed be a sane or insane person.
- (b) The Court shall thereupon forthwith make an order directing the Register in Chancery to forthwith issue a writ de lunatico inquirendo to the sheriff of the county, commanding him within five days after the service of the writ to summon a jury, and have determined by the jury whether the person committed be a sane or an insane person, and make return of the same to the court within two days after the finding thereof by the jury.
- (c) If the finding of the jury be that the person committed is a sane person, the sheriff shall forthwith make an order upon the Superintendent of the Hospital, and, if he be absent, upon any official of the Hospital, commanding that the person therein committed be immediately released from the Hospital.
- (d) Commitment of any person to the Hospital shall not raise any presump-

¹¹ Ibid., Section 5124, Paragraphs (a)-(g).

¹² Ibid., Section 5125, Paragraphs (1)-(4).

tion against the sanity of the person therein committed. The provisions of this section shall inure to the advantage of persons confined in the Hospital without regard to the date of commitment.¹³

Governor Bacon Health Center. With the exception of alcoholics who may be committed by any court in the State, the patients admitted to the Governor Bacon Health Center, are voluntary admissions. Alcoholic patients seeking admission for the first time are usually voluntary admissions. The Delaware Code makes the following provisions for the admission of patient to the various units.

No person shall be admitted to any Department of the Center except as provided in section 5323 of this title or except as follows:

- (1) Children between the ages of three and eighteen years who are either seriously maladjusted or mentally ill and who are amenable to modern care and treatment shall be admitted to the Center upon the application of the parents or the surviving parent or legal guardian of any such child or any institution or agency having the care and custody of any such child or by the commitment of any court of this State having jurisdiction over such children;
- (2) Handicapped or crippled children, including spastics, cardiacs, and those afflicted with infantile paralysis, shall be admitted to the Center upon the application of the parents or the surviving parent or legal guardian of such children and in the event that both parents of such children are deceased and no legal guardian has been appointed, upon the application of any physician, institution or agency treating or having the care or custody of such children;
- (3) No child shall be admitted to the detention department of the Center unless a court having jurisdiction over
- dependent, neglected, delinquent or maladjusted children commits any such child for the sole purpose of social, psychological, and psychiatric study and examination;
- (4) A child awaiting assignment to a foster home shall only be admitted upon the application of any public or private agency having the authority or function to place such children in such homes;
- (5) No man or woman suffering from alcoholism or being a drug addict without psychosis, either acute or chronic, shall be admitted to the Center except upon the person's own application or the application of the person's parents, or the surviving parent or legal guardian in the event of none such, upon the application of any physician or institution treating or having the custody of any such person or by the commitment of any court of this State having jurisdiction over any such person;
- (6) No person who is an epileptic without psychosis shall be admitted to the Center except upon his own application or upon the application of his parents or the surviving parent or legal guardian or in the event of none such, upon the application of any physician or institution treating or having the care or custody of any such person;
- (7) No aged person who is bedridden and without frank psychosis and needing nursing care only shall be admitted to the Center except upon his own application or the application of the person or persons responsible for his support and maintenance or upon the application of any institution whether public or private having the care and custody of such person;
- (8) Handicapped or crippled adults, including spastics and those afflicted with infantile paralysis, shall be admitted to the Center upon their own application or upon the application of any practicing physician in good

¹³ Ibid., Section 5125, Paragraphs (a)-(d).

standing, for the purpose of observation, study, and treatment;

- (9) In all other cases, no person shall be admitted to the Center except in accordance and in compliance with the rules and regulations which are adopted by the Board of Trustees of the Hospital governing the admissions.¹⁴

In regard to admission at the Governor Bacon Health Center the law provides the following rules and regulations regarding procedure.

- (a) Notwithstanding anything contained in this section and section 5321 of this title, no person shall be eligible for admission to the Center, except such person is determined to be eligible for admission by the mental hygiene clinic of the Delaware State Hospital or by a mental hygiene clinic established at the Center.
- (b) The Board of Trustees of the Hospital may make and adopt reasonable rules and regulations not inconsistent with the provisions of this chapter governing the admission of persons to the Center.
- (c) The Board of Trustees of the Hospital may also refuse the admission of any person to the Center, excepting such persons committed by a court having authority under law to make such commitment, when the department to which any such person should be assigned is unable for any reason to accommodate any such person.¹⁵

Veterans' preference for admission at the Governor Bacon Health Center was established by the following statutory provision.

The Board of Trustees of the Hospital shall give veterans of World War I and World War II, who are eligible for admission to the Center, a preference over other persons in respect to admission thereto.¹⁶

Hospital for the Mentally Retarded. There are two procedures for admission to the Hospital for the Mentally Retarded—voluntary and involuntary or commitment. These procedures are amendments to existing laws and were enacted by the General Assembly in 1957.

Voluntary admission. The following law provides for voluntary admission of patients to the Hospital for the Mentally Retarded.

- (a) Upon the recommendation of the Mental Hygiene Clinic of the State of Delaware, any mentally retarded minor may be committed to the Hospital at Stockley provided that the minor's parent or legal guardian requests such admission. A public or private agency having the legal care and custody of a minor shall be deemed the legal guardian of such minor for the purposes of this section whether or not the Court has officially designated such agency as guardian.
- (b) The State Board of Trustees of the Delaware State Hospital at Farnhurst may establish a voluntary admission procedure for the observation, study, diagnosis or treatment of any person who is or may be mentally retarded.¹⁷

Involuntary detention or commitment. As in the case of some mentally ill persons, it occasionally becomes necessary to seek residential care for a mentally retarded person for the good of the person and/or the community, even though he or his family may not desire this. The following legal provisions have been made for this situation.

- (a) No adult person may be received as a patient for involuntary detention in the Hospital at Stockley unless his presence in the community would be detrimental to himself or to the community and then only after;
- (1) A certificate stating that the person is mentally retarded has been made upon the recommen-

¹⁴ Ibid., Chapter 53, Subchapter 2, Section 5321, Paragraphs (1)-(9).

¹⁵ Ibid., Section 5322, Paragraphs (a)-(c).

¹⁶ Ibid., Section 5323.

¹⁷ Ibid., (Amended), Chapter 55, Section 1, Subsection 5521, Paragraphs (a) and (b).

dation of the Mental Hygiene Clinic or of the State Psychiatrist, including a complete report of a qualified clinical psychologist, and signed by at least two physicians, residents of this State who have been actively engaged in the practice of medicine for at least five years theretofore within the continental limits of the United States and who are residents of the same county as the person alleged to be mentally retarded;

- (2) The certificate shall be filed with the Superintendent of the Hospital at Stockley;
 - (3) The certificate shall be made within one week after the examination of such person and within two weeks of the filing of the same with the Superintendent;
 - (4) The certificate shall be signed by the physicians who shall also make affidavit to the truth of the facts and statements therein contained, which affidavit may be made before any officer authorized to administer oaths within the State.
- (b) The patient or any person related to or connected with him by blood or marriage, shall have the right at any time to appeal the commitment as evidenced by the certificate to the Court of Chancery. The Court of Chancery shall have full power to hear and determine the appeal and protect all of the patient's constitutional rights in respect thereto. The Court may, if the petitioner so requests, call a jury to determine whether the patient is mentally retarded.

Section 2. This act shall be effective upon approval as to any admission, detention or commitments which shall take place prior to the approval of this act but nothing herein contained shall prevent the Trustees from re-

examining and reconsidering any such prior admission, detention or commitment.¹⁸

Legal resources and responsibility. The cost of maintenance of the Delaware State Hospital, as well as of the Governor Bacon Health Center and the Hospital for the Mentally Retarded, is borne by the State. The State Board of Trustees of the Delaware State Hospital is authorized to "receive, collect, take and hold for the use of the Hospital any and all property (real, personal or mixed) so given, granted, demised, and bequeathed. . . ." ¹⁹ The same type of provision is included in the statutes regarding the other two psychiatric institutions.²⁰

Although the State is responsible for the maintenance of the three hospitals, all patients or those legally responsible for their support are "liable for the care, maintenance and support furnished to and received by" patients while they are in the Hospital. The following law places liability and outlines procedures for collection of funds for the support of patients in the Delaware State Hospital.

- (a) Any person committed to, or placed in the Delaware State Hospital at Farnhurst, shall at all times be liable for the care, maintenance, and support furnished to and received by him while an inmate of the Hospital. Nothing in this section shall relieve from liability for the support of the patient, any person liable under any other law of this State.
- (b) The State Board of Trustees of the Hospital shall keep an account of the cost of the care, maintenance, and support furnished each patient while in the Hospital and shall credit against the account all monies received from the patient or from any other person for or on behalf of the patient.
- (c) The Board of Trustees may collect from any patient, or from the trustee of any patient, or out of the property,

¹⁸ Ibid., Subsection 5522, Paragraphs (a) and (b); Section 2.

¹⁹ Ibid., Chapter 51, Subchapter 1, Sections 5107 and 5110.

²⁰ Cf. Ibid., Chapter 53, Subchapter 1, Sections 5307 and 5310.

monies, and effects of any patient, all monies necessary to discharge and pay all liability of the patient for his care, maintenance, and support.²¹

The following statutory provisions are made for the support of patients in the Governor Bacon Health Center.

- (a) Any patient or person committed or admitted to the Center shall at all times be liable for the care, maintenance and support furnished to and received by any such person while a patient of the center. Nothing in this section shall relieve from liability for the support of any such patient, any person liable under any law of this State.
- (b) The Board of Trustees may collect from any such patient or out of the property, monies and effects of any such person, all monies necessary to discharge and pay all liability of such patient for his care, maintenance, and support.
- (c) The Board of Trustees of the Hospital may also proceed for the recovery of the monies necessary for the care, maintenance and support in an action to be brought in the Superior Court of the State in the name of The State Board of Trustees of the Delaware State Hospital at Farnhurst, for the Governor Bacon Health Center.
- (d) The expenses of the care, treatment and maintenance of any indigent person admitted to the emergency hospital facilities of the Center shall be paid by the county of which such indigent person was a resident at the time of his admission.²²

Similar laws have been enacted regarding the support of patients in the Hospital for the Mentally Retarded.

Plans for the future emergency care of mentally ill patients. Although Delaware stands high among the states in the nation

in regard to facilities and procedures for emergency care as well as for continued care of mentally ill and emotionally disturbed persons, there are still serious unmet needs. For example, the lower counties of Delaware are sadly in need of psychiatric personnel and facilities. There are now in Kent and Sussex Counties specialists in surgery, pediatrics, radiology, and so forth. There are no psychiatrists in private practice in that section. There is great need of encouraging psychiatrists to organize private practice in the two lower counties. Certainly they would not lack patients. This area should present a challenge to young psychiatrists.

The concept of preventive measures and intensive treatment at the onset of mental illness or emotional disturbance is widely accepted as effective in inhibiting mental breakdown or shortening the course of mental illness should it occur. The more available facilities are to those who need assistance, the more likely they are to seek and use psychiatric help before their conditions become chronic or serious. More psychiatric treatment facilities are needed within easy reach of the people.

Every large general hospital should offer psychiatric service, both in-patient and out-patient. However, it would be almost impossible for the smaller hospitals to organize and maintain such units because of the cost of such care. To meet this need the Delaware State Hospital hopes to establish small psychiatric units as branches of Delaware State Hospital, one in each of the lower counties, to give care and treatment in the acute stages of mental illness. It has been demonstrated that many patients recover from mental illness and are able to resume their lives in the community in a few months if they receive early intensive treatment. Also a psychiatric unit in each county would keep the patients in familiar surroundings and accessible to their family and friends. Some patients from lower Delaware who are now at the State Hospital are virtually isolated from their families and friends who find it difficult to travel nearly a hundred miles frequently to visit them. To these small branch hospitals could be

²¹ Ibid., Chapter 51, Subchapter 1, Section 5127. Paragraphs (a)-(c).

²² Ibid., Chapter 53, Subchapter 1, Section 5325, paragraphs (a)-(d).

admitted the patients who now find their way into the State Hospital at Farnhurst.

I have advocated such procedures to the American Psychiatric Association and several state groups. It is a widely accepted philosophy that eventually the large state institutions will be utilized for continuous treatment, and there will be many small psychiatric hospitals for acute patients, on the pattern of the general hospitals in local communities. To establish such units it will be necessary to educate the citizens, especially taxpayers, not to permit legislatures to enlarge the existing populations of the state hospitals. Instead, they should provide for the decentralization of treatment for patients in the acute stages of mental illness.

During the fiscal year 1957-58, 85 patients (26 males, 59 females) were admitted to the Delaware State Hospital from Kent County. From Sussex County 97 patients (50 males, 47 females) were admitted. Of these 44 of the Kent County patients were first admissions; 52 were first admissions from Sussex County. The majority of these patients could have been treated advantageously in local branch hospitals, if such existed. Whenever continuous treatment was indicated, such patients could be transferred to the main hospital at Farnhurst.

The Veterans Administration Hospitals are functioning in this manner to some extent already. For example, at the V.A. Hospital the psychiatric cases treated there are short-term cases. Chronic cases or those who will need long-term continued treatment are transferred to the State Hospital or to other facilities.

Such a plan of small psychiatric hospitals established in various communities would give acutely ill patients opportunity for intensive treatment in well-organized psychiatric units in their own localities. Also,

young psychiatrists would be stimulated to enter into private practice in rural communities, if they have available in nearby communities psychiatric hospitals in which their patients can be treated. This procedure has been demonstrated in the area of general medicine. Many specialists have not hesitated to develop their practices in rural communities in which there are general hospitals.

Some physicians are still in need of accepting the present philosophy of the treatment and care of the mentally ill. Since there are too few psychiatrists to treat all the mentally ill and emotionally disturbed persons who are in need of help, the general practitioners often see many of these patients. Yet the general physicians have very little time to permit emotionally disturbed and mentally ill patients to ventilate their troubles. It behooves the general practitioners, therefore, to have more knowledge of the symptoms and causes of mental illness and emotional disturbance. They must know when to refer these patients to private psychiatrists or to clinics for treatment, or to psychiatric hospitals for residential care. Only relatively few patients are so ill that they are too irrational to express the desire for hospitalization and therefore must be committed according to the law although against their wishes.

Too much emphasis cannot be put on the need for treatment of the mentally ill in the early stages of the disease, if the patients are to be given the best chance of recovery and of escaping the heartaches and tragedy of serious mental breakdown. The general physicians must take the necessary steps to set in motion the administrative procedures for obtaining for persons mentally ill or seriously disturbed emotionally the type of care and treatment which would meet their needs to facilitate their functioning adequately in the community.

INTEGRATED CARE OF PATIENTS

C. DAVIS BELCHER, M.D.*

The customary procedure of caring for patients is for the doctor to examine and order, the nurses care for, and the dieticians to feed. In most hospitals consultation services are left to the discretion of the attending physician. They may be requested for grave conditions or as an aid to shorten the hospital stay. Many doctors recognize the need for consultation in acute cases or emergencies, but neglect to take advantage of such help for patients with chronic illness.

In hospitals treating patients with tuberculosis, mental illness, or other chronic disability, there is always polyvalent therapy of some sort because these are long-term patients. Such service is the beginning of an integrated care program. The approach is to have representatives of each service form a treatment group headed by the physician in charge of the patient. This group, known as an integrated patient care group or team, sees the patient together soon after admission and discusses the problems he presents and suggests possible solutions.

Large institutions might have several such teams. In many instances the personnel situation might be such that workers from auxiliary services would serve in more than one therapy group. However, for a particular patient the members of the therapy group and his physician should remain the same insofar as working conditions would permit.

As efforts are made to extend this program, one can find that like many good things it can receive universal acclaim but practically no application. The forces tending to disrupt the group are large, and unless there is some real leadership it may deteriorate to a formality.

But when the plan is put to work purposefully, a specific group approach is developed so that the patient is seen early in his hospitalization by an integrated care group which will follow him through his entire hospital stay. The early advantages of such a procedure are obvious: his illness and the treatment required, problems of work and finance, fear about his family, and other difficulties can be brought out into the open. Such intelligent use of all resources within the hospital effectively prevents neglect of the patient in any way and can go far to eliminate the discouraging sequelae which appear in some cases as the result of prolonged hospitalization.

When this approach is used on a wider basis for acute as well as chronic patients, we begin to see the hospital stand out as a special facility offering unique services which cannot be obtained elsewhere. Hospitalization for any particular patient fulfills three criteria: first, it provides the patient with a type of specialized care that cannot be obtained elsewhere. Second, it assures that this period of hospitalization does not begin before nor last after the particular time period required for his specialized treatment (the period before and after being taken care of by other community agencies, if the need exists). Third, it assures the patient the best overall program of care that his community or group will support. Such ideal hospitalization requires resources that take care of all the details leading up to a patient's admission and post discharge services that make arrangements for patients for whom the need for hospitalization no longer exists.

To appreciate the full significance of this changing concept, it is necessary to give thought to the training of physicians and nurses, the existing cultural pattern in which we live, the nature of the allied serv-

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ices available, and the objectives we wish to attain.

It must be accepted that our doctors and nurses are not basically trained for problems of this nature since emphasis is on the more optimistic aspects of medical care. The usual hospital atmosphere is one of sustained, orderly accomplishment. It is a potent force and has group interest as its accomplishment. But there is a basic point which should not be overlooked; this interest is in large part essentially in and for the group—not the patient. There is pride of achievement by the group and the patient is important in the same sense as the beds, the building, and the drugs; without them all, nothing could have been accomplished.

Today, as a result of this training, medicines and surgery are expected to do the work. Statistically we know our cures are more effective than ever before, but who can deny that there is a factory-like efficiency and atmosphere in many of our hospitals. Each member of the staff has a job to do, and as the patient passes through the institution these jobs are well done for the most part. So, the physician finds himself in some measure constrained to treat the presenting illness and not the entire patient. Whether we like it or not, there is a constant tendency for professional care to become impersonal.

For the new patient with an acute illness, concern for himself hinders close observation of his surroundings when he is admitted to a hospital. The multiplicity of things being done for him is readily interpreted as tremendous personal concern for his welfare rather than simply the competent performance of routine duties. The majority of acute patients find this an entirely satisfactory procedure. They are admitted, treated, and discharged while in a state of mind where every attention is accepted as a kindness. Thus, they escape the damage to ego that results from realizing that they are just a "case" and that the attention is part of the normal hospital routine. These patients are closely attached to life outside the hospital and convalescence

includes visits and gossip with family and friends which maintains this contact.

When doctors and nurses trained in an atmosphere of acute illness, sudden injury, quick decisions, and melodramatic recoveries first encounter the chronic phases of disease their reaction is one of annoyance. Sometime it is possible to find a satisfactory pathological explanation for the patient's continued symptoms. But often the physician can find no such explanation and has to accept the bitter fact that the patient cannot be cured by any treatment known to him. These people require care for years rather than days or weeks, and the time and effort required for their care is a large factor in any medical budget. Invalidism, in greater or lesser degree, is their lot and gradually outside contacts slip away and hospital or institutional existence comes to be their life.

It is in the chronic field that the physician's failure to appreciate the patient as a whole may become most apparent. Unconcern about his family and financial problems may have little effect on the patient if he is hospitalized two weeks, but will create a wide gulf if he is hospitalized two years. Frequently the physician concentrates on treatment of a specific ailment only to find that as time passes the patient has become overwhelmed by his problems and all that was gained has been lost because of the concentration on a single facet of his entire situation.

If the patient is long confined in a monotonous environment and finally becomes psychotic, he may gain little from final arrest of the disease. If personal problems force him to leave, his sacrifice of time up to that point and the cost of treatment may be wasted.

Various services have become available in our hospital. The nursing service is as old as hospitals; modern dietetics has appeared more recently. Other services which are of immediate diagnostic help, such as x-ray and laboratory services, are promptly used. The Physical Medicine and Rehabilitation Service is called on more frequently today as we encourage early ambulation in



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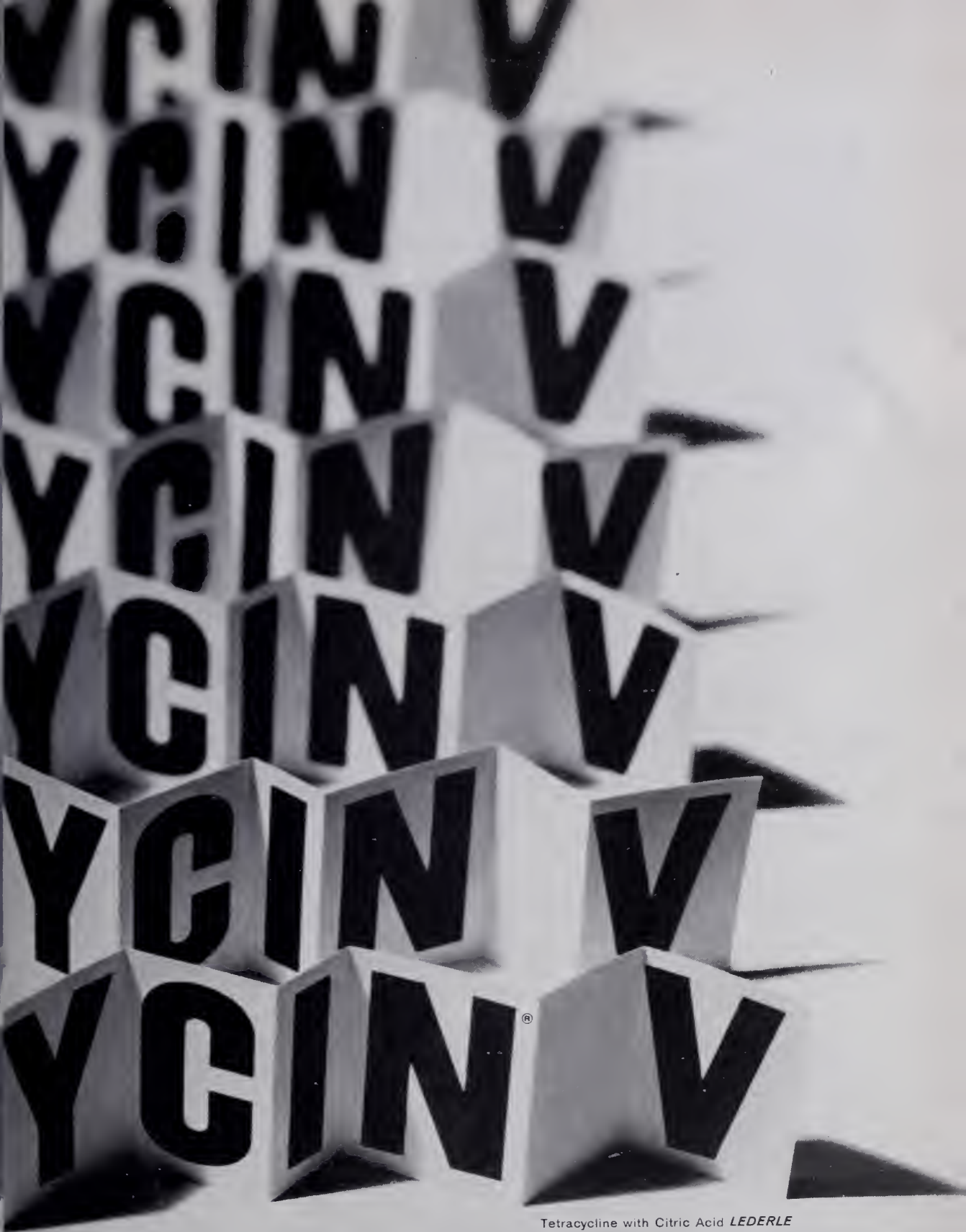
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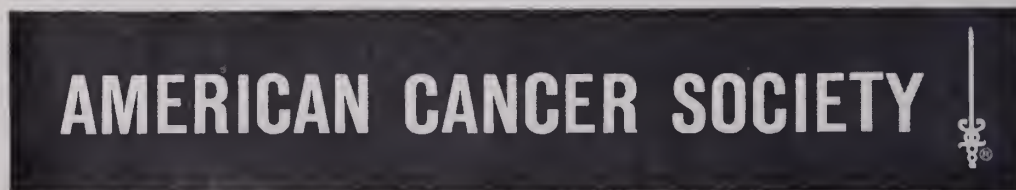
Doctors are generally agreed that the best hope of saving lives from cancer is early detection and prompt, proper treatment. Great progress has been made in the last ten years: the saving now of 1 in 3 compared with 1 in 4, as more and more people are seeing their doctors **in time**.

But with present knowledge and existing facilities, it is possible **today** to save **1 in 2** cancer patients. This is the target of the American Cancer Society's professional and public education programs.

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In its public education program, the Society uses every effective communication medium to urge people to have annual health checkups and to go to their doctors promptly at the appearance of a danger signal.

The challenge will be met. As more and more doctors' offices become "cancer detection centers," and as more and more people see their physicians regularly, the closer will come the day when half of our cancer patients will be saved. The know-how for saving the remaining half is still being sought in our research laboratories. Ultimately that challenge, too, will be met.



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so many conditions. The psychiatrist, psychologist, and mental hygiene clinics offer aid for the mentally disturbed.

But beyond these essentially medical groups are other auxiliary services which most hospitals have at their disposal. The Social Service, Special Service, the Red Cross, and the Chaplain Service are some of these. Through them there are a variety of connections with various volunteer groups, civic organizations and the clergy of churches in the community which can offer additional assistance. Through these groups the contact extends to family, friends, and employers.

It is a basic realization behind the concept of integrated care that these newer services have been employed too little and too late. Often it is only when some specific situation arises that these services are asked to contribute. It is difficult to persuade the busy physician to concern himself with these less urgent or less obviously medical problems of the patient until they assume such proportions that effective treatment is hampered or made impossible.

It is apparent that when such an integrated care group begins to function in a hospital as a regular unit rather than as an occasional or emergency set up there are new problems to face. First is the primary intergroup relationships. Personal rivalries, fear of ridicule, therapeutic overlapping between services, individual clashes and other factors may block effective function. The physician who has personal charge of the patient must retain control. Conflicts must be aired, roles defined, anxieties relieved so that the members of the group feel safe and comfortable with each other.

There is a limit in any hospital as to what can be done with the personnel at hand and it is important that the maximum use of the integrated care team should be directed where it is likely to produce the most benefit. These are the patients who need some help, some directing, some reaffirmation of old faiths or new purpose in life to add to the treatment of their specific disease if they are to be effectively restored to the community.

The General Hospital may not have so many patients of this type as the tuberculosis sanatoriums or mental hospitals. But though they're few, these patients can be restored with their disease healed, without the hardship long-term therapy so often presents with the mental or tuberculosis patient. If the job is well done, their chance of readmission for that condition or a complication of it can be reduced.

The hazard inherent in such programs is that there are many patients willing to assume a dependency status. The excuse of illness covers many forms of failure and interest in their problems, can result in their abandoning personal initiative, and depending on the integrated care team to solve all problems concerned with their personal existence. This is not a casual threat, and any system may be broken down if overloaded with cases that will assume no personal responsibility.

Those who have worked with group teams are loud in their praises, but they point out that when first instituted there must be firm support from the administrative staff and Chiefs of Services. There must be a meeting of representatives of each service as a single therapeutic agency. It is this meeting together which leads to the exchange of ideas, the mutual awareness of one another, and a greater understanding of what can be achieved. This is an enlightening procedure for each member and produces an atmosphere which can be highly constructive. If this atmosphere is well maintained personnel shortages or changes should not be destructive and may be beneficial by the influx of new ideas.

The achievements of such teams is seldom dramatic; in fact, they exist because of the increasing load of patients for whose problems we have no dramatic solution. This fact must be kept in mind by both the administration and the physician. Only by easy communication with the ward personnel, the auxiliary services, families, civic and volunteer groups on the outside and refreshing one's own recollection of problems which existed prior to the introduction of an integrated care program will one be

able to evaluate the result of this effort and decide whether the gain is worth that effort.

The best manner in which the integrated group should function in a general hospital cannot be stated at this time. There is ample room for experiment. Whether it is to be by occasional ward rounds, or by presenting a few patients to the group at planned meetings, must be decided by the group until sufficient experience has been acquired to point to the superiority of certain procedures.

But one thing must be clear—it must be a group and must meet as a group. A wider and earlier use of our present consultation

system would miss entirely the benefits to be obtained from interchange of ideas within the group. The wise use of an integrated care team functioning with knowledge now available can bring benefit to many.

If the integrated care program is to work in the general hospital, it must prove itself—not in some debatable way supported by questionable statistics and considerable emotion, but in a manner so satisfactory that those physicians who have worked with an integrated care team in the treatment of their patients would not work without it any more than they would do without x-ray or laboratory service.

PERCUTANEOUS NEEDLE BIOPSY OF THE KIDNEY: A METHOD FOR YOUNG CHILDREN AND UNCOOPERATIVE PATIENTS*

DAVID J. REINHARDT, III, M.D.**

GERHARD HARTENAUER, M.D.***

Needle biopsy of the kidney by the percutaneous route with local anesthesia has proven to be safe and successful in obtaining tissue for both histologic diagnosis and bacterial culture.^{1,2} However, the advantages of this procedure have been denied uncooperative patients and children³ because of the possibility of laceration of the renal parenchyma. Laceration results when the patient fails to maintain the state of holding his breath at the moment the biopsy specimen is being taken.

The interest of the authors was initiated in this limitation of the renal biopsy technique by diagnostic problems of which a brief example follows:

ILLUSTRATIVE CASE

S. O'N., a seven year old Negro female was admitted to the Delaware Hospital on December 1, 1957, with the complaint of bloody urine which had been present almost daily for five years.

The past history revealed that the patient had been carefully studied at a hospital in a distant geographic location two years previously. The only positive urinary findings at that time were variable numbers of red cells with some granular casts and moderate amounts of albumin.

A renal biopsy by the percutaneous route was attempted at that hospital and the following description of the procedure was

forwarded to the Delaware Hospital in the transcript of the patient's records.

"Two attempts were productive of only what appeared to be glandular tissue. The patient experienced minimal pain but even with the sedation of 40 mgm. of Demerol and 120 mgm. of Seconal, the patient had to be held by three assistants. Accordingly, the procedure had to be terminated with some haste for fear of renal laceration. An operative biopsy was then considered." The patient's illness was classified as an atypical form of subacute glomerulonephritis without confirmation by renal biopsy. Intensive investigation at the Delaware Hospital also failed to confirm a definite diagnosis. As a result it was felt that renal biopsy was the only procedure which would clarify the kidney pathology. The description of the biopsy procedure enclosed in the transcript of the previous hospitalization as well as the authors' lack of experience of kidney biopsy in children indicated that either an open surgical biopsy must be done or else a different method of doing the percutaneous biopsy had to be evolved which would bypass the dangers of the uncooperative, uncontrolled respiration of a fearful, weeping child. Accordingly, the authors consulted with the Anesthesia Department and the method described as follows was performed.

Mild pre-biopsy barbiturate sedation was administered. An anesthesiologist administered general anesthesia consisting of a mixture of nitrous oxide, cyclopropane and ether. Endotracheal intubation was not done. A mask was used and the anesthetic machine had the usual reservoir bag at-

* Supported in part by a Grant from The Delaware Heart Association.

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tached. The patient was placed in the prone position with a small sandbag placed beneath the abdomen as is usually done for a routine percutaneous kidney biopsy.³ Respiration was controlled manually by pressure on the reservoir bag. After locating the kidney, the cannulated biopsy needle was inserted in the usual manner and the inspiratory phase of breath holding was maintained by manual pressure on the bag for as long as six seconds which allowed more than enough time for withdrawing the cannula and inserting the cutting tongs to obtain kidney tissue. An adequate specimen containing twelve glomeruli was obtained. There was no evidence of acute or sub-acute glomerulonephritis on microscopic examination of this tissue.

Within two hours following biopsy the patient was out of bed and playing with other children on the ward. She did not complain of any pain or discomfort. There were no complications following the procedure and subsequent discharge from the hospital. She was allowed to return to a normal active life with periodic medical supervision rather than to an endless program of bed rest assuming the presence of a more active lesion.

DISCUSSION

The purpose of this report is to bring to

the attention of those caring for children or otherwise uncooperative patients a simplified method of obtaining a tissue specimen from the kidney with minimal trauma involved for the patient. While the use of general anesthesia is not deemed necessary for the great majority of biopsies of this type it is apparent in the above illustration that general anesthesia of a magnitude no greater than that utilized in the usual tonsillectomy can result, with cooperation from the anesthesiologist, in a very simple, safe, and rapid renal biopsy.

SUMMARY

A simple modified method for percutaneous needle biopsy of the kidney has been described which can safely be utilized in young children and uncooperative patients.

ACKNOWLEDGMENT

Appreciation is expressed for the help and cooperation of the Anesthesia Department of the Delaware Hospital in evolving this procedure.

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NOCTURNAL LEG CRAMPS, EASY BRUISABILITY AND EPISTAXIS IN MENOPAUSAL PATIENTS: TREATED WITH HESPERIDIN AND ASCORBIC ACID

ANNE HOROSCHAK, M.D.

PLAINFIELD, N. J.

The menopause, compared to any other period of a woman's life, creates a plethora of complaints which make differential diagnosis a definite problem. The menopausal symptoms, in many instances, closely resemble those observed associated with organic disease and represent a diagnostic puzzle.

Because of the limitations of knowledge concerning many of the problems presented by the menopausal patient, the objective of any treatment is to try to relieve the most troublesome symptoms. In addition, every effort should be made to correct any apparent abnormalities which seem to be contributing to their causation.

The study being reported was designed to determine the effect of hesperidin—a flavonone glycoside—combined with ascorbic acid* on three troublesome complaints presented by a group of menopausal patients. The patients were followed for a minimum of five years.

Materials and Methods: In a series of 40 menopausal patients, nocturnal leg cramps were the most serious complaint in 14 patients, easy bruiseability in 15, and epistaxis in 11 patients. All of the patients were white with an average age of 51 years. The series was made up of school teachers, nurses, business women, physicians wives, and housewives.

History Survey: A carefully taken history was obtained from each patient, and a survey of these histories revealed that most of these patients had received "injection treatment" for their menopausal symptoms

from other physicians. Many of the patients had taken or were taking vitamin preparations, including vitamin C and vitamin B₁. Several of the patients with nocturnal leg cramps had quinine prescribed for their condition. It is possible the patients expected "too much too soon," or the physicians promised "more than could be delivered." In any event, the treatment given apparently had no salutary effect on the troublesome complaints.

Physical examination ruled out any organic or local causes which might have been considered contributory to the predominant complaints. Blood studies showed a slight to moderate rise in blood cholesterol which was not considered significant.

The nocturnal leg cramps, easy bruiseability and epistaxis were more pronounced during the time when the patients would have had their menstrual period. Easy bruiseability was more or less limited to the inner aspects of the thighs and to the lower abdomen. Large ecchymotic areas would appear and persist for about 10 days. Epistaxis was slight to moderate in 8 patients and severe in 3 patients. There seemed to be some correlation between their previous menstrual flow, and their menopausal epistaxis. The patients with severe epistaxis had been subject to menorrhagia during their menstrual periods.

Treatment was divided into 2 phases; first, the establishment of an amiable physician-patient relationship, and second, treatment with hesperidin-ascorbic acid.* The

* Hesper-C: The National Drug Co., Philadelphia 44, Penna.

patients were counseled that "advancing years and ageing cannot be stopped, but certain of their devastating effects can be substantially delayed and a full and fruitful life made possible." They were permitted to discuss their problems freely and counsel was given when indicated. This procedure modified the anxiety and tension with the result the patients became more cooperative. This should be sound therapeutic philosophy when it is realized that tensions tend to cause those effects which can be designated as painful.

The hesperidin-ascorbic acid combination* was prescribed in capsules containing 100 mg of each. Treatment was uniform for all patients at the start; 2 capsules of Hesper-C after meals and at bedtime for two weeks, then one capsule four times daily for at least 4 weeks. Any reduction in dose was commensurate with the degree of improvement. When improvement seemed to be complete in a patient, she was directed to take as a maintenance dose, two capsules daily, and finally to discontinue.

Results:

1. Nocturnal leg cramps—14 patients: In 4 patients the leg cramps and pain were controlled within 2 weeks; in 4 patients within 5 weeks; in 3 patients within 6 weeks; and in 3 patients, the symptoms were considerably modified in 10 weeks and well controlled within 12 weeks.

These patients each took 2 capsules daily for an average of one year. After the first year, 6 patients discontinued the hesperidin-ascorbic acid and had no recurrences during the duration of observation period. In 5 patients it was necessary to resume with 2 capsules daily after 3 months because of recurrence of moderate symptoms. In 3 patients, full dose schedules of hesperidin-ascorbic acid had to be continued, after a trial of reduced dose of Hesper-C for three weeks.

After 5 years of observation, 9 patients were symptom free and had no need for Hesper-C. Two patients continued to take one capsule daily, "a precautionary meas-

ure." They were symptom free for long periods, then had slight recurrences for short periods. The remaining three patients had frequent recurrences in spite of the high dose of Hesper-C.

2. Easy bruisability—15 patients: Eleven of the 15 patients showed a resistance to easy bruisability after 8 weeks of treatment with Hesper-C. They continued to take 2 capsules daily for 6 months, when the hesperidin-ascorbic acid was discontinued. Six of these patients maintained their resistance through the total observation period. Three of the 11 patients were able to discontinue the treatment after one year and had no recurrences. Two patients had to take the Hesper-C during the cold months to retain protection through the second year, after which the treatment was stopped, and it was not necessary to resume.

The remaining 4 of 15 patients had to continue treatment with 8 capsules daily for a period of sixteen weeks to acquire resistance to bruisability. They continued treatment for 6 months, when Hesper-C was discontinued. Three of these patients had to resume Hesper-C treatment within 4 weeks and one patient in 3 months.

After a 5 year observation period, 11 patients were symptom free with no further need of Hesper-C; two patients were taking one to two capsules daily and were symptom free, and 2 patients experienced recurrences when taking maintenance doses, but remained symptom free with 4 capsules daily. This response to varying dose schedule in these 2 patients was noted through the 5 year period.

3. Epistaxis—11 patients: In 8 of the 11 patients, epistaxis was slight to moderate, and in the remaining three patients, tended to be severe and of concern to the patient.

In the 8 patients with slight to moderate epistaxis, the bleeding was totally controlled within 6 to 11 weeks or an average of approximately 8 weeks. They continued maintenance dose of 2 capsules daily for one year, after which the Hesper-C was discontinued. Slight epistaxis recurred in 2 of the 8 patients within 6 months. They

* Hesper-C: The National Drug Co., Philadelphia 44, Penna.

took 4 capsules daily and became symptom free within 6 weeks. They continued 2 capsules daily for 6 months when treatment was discontinued. The 8 patients continued symptom free for the duration of the study period.

The 3 patients with severe epistaxis did not respond as well as was anticipated. One patient was controlled after 3 months of treatment and remained controlled for the full term of the study by two capsules of Hesper-C daily. The epistaxis in the remaining 2 patients was modified, but at no time was it completely controlled up to the fourth year. At this time there was a spontaneous remission without any further recurrences for the duration of the observation period.

The improvement in the physical symptoms in these patients stimulated a definite improvement in their mental attitudes. It was gratifying to observe the lessening of anxiety and tension in the patients with the improvement in their physical status.

Discussion: The termination of the reproductive capacities in a woman's life, manifested by the cessation of menstrual function, may be defined as the pinnacle of endocrine and nervous instability. The menopausal patient often presents a multiplicity of complaints which have no demonstrable pathologic basis. Thus, it is at times impossible to satisfactorily and adequately summarize in one name the whole state of a patient's disequilibrium.

The onset of the menopause initiates anxiety and tension. Anxiety at a high level carries with it autonomic and endocrine reactions that tend to intensify or even to create a wide variety of disorders.¹ When these anxieties become chronic, they constitute a state of fear, which interferes with physiologic equilibrium. It is the time that is taken to bring about essential adjustments that determine the duration of symptoms. The symptoms are only an expression of the body's attempt to re-establish equilibrium.

Menopausal patients need reassurance that their symptoms are transient and more or less harmless in nature. It is essential to

convince the patient that her emotional conflicts must be resolved to reduce the stresses which contribute to her symptoms. It is also necessary to fortify the physical and psychic resources to insure the re-establishment of equilibrium.

The nocturnal leg cramps in menopausal women may be idiopathic, or the result of muscle anoxia caused by a dysfunction in the capillaries supplying the affected area or the nerves in the area. It has been suggested that "the physiologic circumstances attending the onset of cramps seems to be related to the metabolic conditions within the muscle at the time of onset."²

Easy bruisability is found predominantly in women of fair complexion, with thin textured skin, who have symptoms of endocrine dysfunction, and menstrual disorders. It is probably caused by a combination of factors, including undue thinness of the skin, abnormal fragility of the smaller blood vessels and defective cushioning of the subcutaneous vascular bed.³

To quote a Hippocratic aphorism, "In a woman when there is a stoppage of the menses, a discharge of blood from the nose is good." It is difficult to convince a patient of the validity of this because of the unpleasant inconvenience her nose bleed causes her.

Thus, the capillary system seems to be involved in nocturnal leg cramps, easy bruisability and epistaxis as presented by menopausal patients. The basic function of the circulatory system, which is the establishment of tissue homeostasis, resides in processes unique to the capillary bed proper.⁴ The capillaries assume major importance in the body's economy when they are viewed as filter beds.

Defects in the capillary system have been corrected by the administration of a combination of hesperidin and ascorbic acid. It has been stated:⁵⁻⁶ "Hesperidin is essential for the retention of vitamin C, acting synergistically in maintaining normal capillary resistance."

Vitamins, which by definition should be active only in specific deficiency diseases,

have been shown to be therapeutic agents of wide application, capable of acting in a great number of organic dysfunctions not related to avitaminosis. Vitamin P (Hesperidin) is no exception to this rule; a deficiency of this vitamin causes, besides alteration in capillary permeability and resistance, also pain in the extremities with effort, debility and lassitude.⁷

Szent-Gyorgi stated:⁸ "There can be little doubt that flavonoids are not only useful therapeutic agents in conditions of capillary fragility, but have many diverse actions in the animal body. The flavonoids may be produced by the body, but the body may be unable to synthesize them under exceptional circumstances such as stress, infection or the influence of some genetic shortcoming. There is no doubt our body is dependent on an outside supply for the classical vitamins under any condition."

The therapeutic value of the combination of hesperidin and ascorbic acid as a corrective agent of capillary fragility and permeability is well documented in medical literature⁹; there is no need for a review in this report. As pointed out by Martin¹⁰, "It is to be regarded as supplemental therapy of value

in virtually all disease states and specific in action with respect to some."

Conclusion: Nocturnal leg cramps, easy bruisability and epistaxis in menopausal patients were successfully treated with a combination of hesperidin-ascorbic acid (Hesper-C). It is concluded that these symptoms were controlled in a majority of patients as a result of the correction of capillary defects by the treatment with hesperidin-ascorbic acid (Hesper-C) and the establishment of an amiable patient-physician relationship.

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SEROLOGIC TESTS FOR SYPHILIS

WINDER L. PORTER, M.D.

Presence of the *Treponema Pallidum* in the human body stimulates the production of a number of antibodies. One is commonly referred to as reagin, and numerous tests have been devised to detect its presence. It is obvious from the wide variation of reactions obtained by submitting a single specimen to a battery of tests that they do not evaluate the same property. Nevertheless, they have been valuable in the diagnosis of syphilis and in following the course of the individual patient after treatment. The remarkable feature is that the more successful antigens are non-specific since they consist of lipid extracts of beef heart fortified with lecithin. One such antigen, cardiolipin, is believed to be most specific. It forms the basis of many tests in popular usage, making possible the adjustment of several tests so that they can be either most sensitive or most specific, the aim being to arrive at the best balance of both qualifications.

Tests commonly employed are of two types: (1) complement-fixation tests and (2) flocculation tests. The complement-fixation tests are modifications of the original Wasserman test, the Kolmer version being the one currently employed by the laboratory of the Delaware State Board of Health. The commonly used flocculation tests are the Kahn, Kline, Hinton, VDRL, Mazzini, Eagle, and those of the U. S. Army and New York State Department of Health. Often the test used in a particular state is related to its authorship. Delaware recently has switched from routine employment of the Kahn to the VDRL (Venereal Disease Research Laboratory) which has been developed by the United States Public Health Service, and has several aspects which make it increasingly popular. While frequently employed as a screening procedure, we still feel it is highly desirable to parallel studies with the Kolmer test.

All of these tests are subject to quantitative determination based upon the number of times a specimen may be diluted and still yield reaction. In infection with syphilis, peak production of reagin is reached at about two months and then declines sharply and progressively. Depending on a number of factors, including the intervention of treatment, decline may proceed to complete absence of reaction or be interrupted at some intermediate point.

Unfortunately, other disease processes may induce changes in the blood which are detected by routine serologic tests for syphilis. Over two hundred separate entities are documented as being responsible for such reactions, but most can be catalogued in a few related categories: (1) other acute or chronic infectious diseases and procedures for immunization against them, (2) disturbances in the gamma globulin composition of the blood and (3) so-called collagen disorders. Reactions arising in the course of acute infections or immunizations do not cause concern since the changes are reversible and usually subside in a short time. The situation also is clarified when a blood dyscrasia or chronic infection such as leprosy is evident.

However, changes due to lupus erythematosus have been known to appear years before there was clinical evidence of the disease. While such biologic false positive serologic reactions (BFP) are usually in low titer, they may produce high titers, and faint reactions may be encountered in other patients with serious syphilitic involvement. The incidence of BFP reactions in the general population is not known but there is a tendency to accept the figure of 40 per cent established by the late Dr. Joseph Moore. It must be noted that he was concerned with a selected group of white patients in a favored socio-economic bracket without

clinical or anamnestic evidence of syphilis. Incidence in the general population is much lower and, in the clinic patient bracket, routine tests are a highly reliable screening device, worthy of serious consideration when results are consistent and sustained. A greater percentage of BFP reactions have been noted in female patients. There still is dispute whether sex *per se* or an episode such as pregnancy can produce BFP. With some patients a familial tendency has been noted.

Recognition of the limitations of the standard serologic tests has led to the development of a growing list of procedures to measure other antibodies elicited by spirochetal disease. These employ actual treponemata, both alive and inactivated, or various chemical extractives from virulent organisms. Best known is the TPI (Treponema Pallidum Immobilization) test first described in 1949 and often used as a yardstick for evaluating other tests. Expensive and elaborate technical processes involved limit its application. It is impossible to keep up with the modifications of the TPI itself, and with all the substitute procedures which include: (1) FTA (Fluorescent Treponemal Antibody) test, (2) TPCF₅₀ (where the substrate refers to a modification of the TPCF so that the same amount of antigen may be employed to perform many times the number of tests originally conceived) and (3) RPCF (Reiter Protein Complement Fixation test). The Reiter Protein is a specific protein fraction of the Treponema itself and is commercially available. I hope that the staff of the Delaware State Board of Health laboratory will be able to include some of these procedures soon. TPI testing has been available on a limited basis with delays of a month or more to obtain results from the USPHS laboratory to which sera must be relayed.

Specific Treponemal tests may show false reaction in the absence of syphilis, and false non-reaction when syphilis is present. Reactions appear later in the course of the disease with the TPCF titer reaching its peak at about three months and TPI after about nine months. Both tend to remain at high titers longer than reagin. Persist-

ence of antibodies following treatment is related to the duration of disease prior to treatment and the antibody concentration at the time of treatment, so that the incidence of positive TPCF reactions would be higher than that of positive TPI reactions in patients treated early in the course of the disease. In untreated late syphilis, the TPI and TPCF appear equally sensitive while the TPI seems more sensitive in treated late syphilis.

Ultimately the diagnosis of syphilis must depend upon the individual physician and the aids available. In this era when antibiotics are freely dispensed, there always is the possibility that a specific response has been altered by removal of stimulation to antibody production.

History is important and must take into account the background of the patient, his associates, previous tests and therapy, including that which may have been administered for another disease.

No one test can be expected to confirm a decision but use of all will help the physician in favorable management of the individual patient.

SUMMARY

1. The Treponema pallidum stimulates production of many antibodies.
2. Serologic tests for syphilis based on detection of reagin have long been useful and continue to be reliable.
3. Tests for reagin are reactive in conditions other than syphilis, and are not all fully understood.
4. Newer tests employing treponemata or extractives thereof have aided materially in delineating Biologic False Positive reactions.
5. Three recent modifications are especially promising in that they appear feasible for adoption by laboratories with limited facilities.
6. The diagnosis of syphilis in the individual patient is materially aided by

(Continued on Page 26)

+ Editorials +

GIVE THEM A BREAK-

Upon completion of his visit to the doctor, Mr. X asked for information concerning a certain disease. Cautiously, the doctor asked the reason for his interest and found that Mrs. X had been to see another physician—by appointment only. After waiting three hours, she was seen by the doctor who took a complete history, performed an exhaustive examination, and ordered a battery of tests. Later, she returned, waited only one hour and saw the doctor for five minutes. He told her that she had such-and-such a disease: he was too busy to discuss it with her.

"He just gave her a diagnosis", said Mr. X.

No indeed, Mr. X, you're mistaken. He *sold* her that diagnosis.

There are many Mrs. Xs wandering from doctor to doctor carrying a diagnosis about which they seek information. Admittedly, this is to the liking of some but there are many more whose only problem is that the first doctor didn't take the time to talk to them. Let's *give* these people the help they deserve.

DO AS I SAY, NOT AS I DO-

This maxim, especially true of physicians dietary recommendations, is not valid concerning the doctor's hobbies. Most of us advise the patient to relax — get a hobby. It is fascinating to discover not only the number of physician-hobbyists in Delaware but the wide field of interest covered by their endeavors.

Most of us have heard the famous combo of horn, licorice stick, and banjo. Most of us know at least one colleague who takes pictures or collects stamps. And then there

are the golfers, fishermen, hunters, yachtsmen, fliers, and finally the sports car devotees.

On the other hand, how many of us know our colleagues who paint (pictures), make furniture, or compose music? We have them right here in Delaware.

The Journal would like to publish a series of articles about our own hobbyists—but only if you want it.

What is your hobby?

COMMITMENT PROCEDURES-

This issue of The Journal contains a much needed article on commitment procedures, legal resources and *responsibilities*, and a resume of the modern philosophy of

approach to psychiatric problems. The family physician will find this article to be valuable.

the laboratory, but still needs careful appraisal of all that can be learned about the patient.

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MAJOR MEDICAL MEETINGS IN DELAWARE

Standing Schedule

Beebe Hospital	General Staff	2nd Friday	Monthly
Delaware Hospital	General Staff	2nd Tuesday	Feb., May, Sept., Dec.
Kent General Hospital	General Staff	3rd Tuesday	Monthly
Memorial Hospital (Wilmington)	General Staff	2nd Tuesday	Jan., March, June, Oct.
Milford Memorial Hospital	General Staff	2nd and last Tuesdays	Monthly
Nanticoke Memorial Hospital	General Staff	1st Thursday	Monthly
St. Francis Hospital	General Staff	4th Tuesday	March, May, Oct.
		1st Tuesday	December
Wilmington General Hospital	General Staff	4th Tuesday	Jan., April, Sept., Nov.

Kent County Medical Society	Monthly Meeting	3rd Tuesday	September - June
New Castle County Medical Society	Monthly Meeting	3rd Tuesday	September - June
Sussex County Medical Society	Monthly Meeting	2nd Thursday	September - June

Delaware Academy of General Practice	Monthly Meeting	1st Tuesday	September - June
Delaware Pathology Society	Weekly Meeting	Each Friday	

Special Schedule

Medical Society of Delaware	Medico-Legal Symposium	A. I. du Pont Institute	February 22, 1959
Medical Society of Delaware	Annual Meeting	Academy of Medicine	October 14-15, 1959
American Medical Association	Annual Meeting	Atlantic City, N. J.	June 8-12, 1959
Delaware Academy of General Practice	Annual Meeting	Academy of Medicine	December 5, 1959
Delaware Academy of Medicine	"Sarcoidosis"	A. I. du Pont Institute	March 9, 1959
Delaware Academy of Medicine	Building Dedication	Academy of Medicine	October 13, 1959
Delaware Health Forum	"Emotional Development and Disturbances of Childhood"	P. S. du Pont School	February 24, 1959
Delaware Health Forum	"Life Stress and Bodily Disease"	P. S. du Pont School	March 24, 1959

Delaware Division, American Cancer Society	Annual Meeting	October 22, 1959
Delaware Chapter, American Heart Association	Annual Meeting	May 19, 1959
Mental Health Association of Delaware	Annual Meeting	April 30, 1959

MEDICAL COURT CASES



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“RENDERING UNTO PATIENT SUPERFICIAL EXAMINATION”

BOURGEOIS vs. DADE COUNTY Supreme Court of Florida 99 So. 2d 575

This was an action by the administrator against the county for the death of the administrator's decedent. The Circuit Court of Dade County, Florida, entered judgment pursuant to a directed verdict for the county, and the administrator appealed.

At about 1:50 A.M., Nicholas Geoffrey Bourgeois, dressed only in shorts, was found stretched out on the lawn in front of the Dean Hotel in a condition which a Miami police officer described as “unconscious.” The police called an ambulance and Bourgeois was taken to the County Hospital on a stretcher. The ambulance driver testified that the man was unconscious and that when delivered to the hospital he reported to the admitting nurse that Bourgeois “was out”. The police officer detected a “slight odor” of alcohol. The ambulance driver noticed none at all.

Bourgeois was taken into the hospital emergency room. The attending intern testified that the man's chest sounds and pulse were normal and, although incoherent, he was not unconscious. The intern stated that the man's breath literally reeked with alcohol. He stated that someone told him that the man had been “found on the street” but he did not undertake to obtain any history of the situation at all. No x-rays were made. After a relatively superficial clinical examination, the intern released the man to a nurse to return him to the hospital police room for delivery to the police as drunk.

The police called for Bourgeois at the hospital sometime after 3:00 A.M., carried him out to a patrol car and conveyed him to the municipal jail. The police officer tes-

tified that the man slumped over on the seat of the automobile as if his “back were broken.” When placed in the elevator to carry him up to the jail, the man couldn't stand up but slumped down on the floor. He was then put into a cell on a metal cot and left to himself. He was found dead in his cell at 7:00 A.M. Death was caused by air and hemorrhaging in the thoracic cavity resulting from the piercing of the cavity by broken ribs.

The Supreme Court of Florida reversed the decision of the lower court and remanded the case to that court for a new trial. The Supreme Court stated: “Here it appears that a man, dressed only in shorts, was delivered into the custody of the emergency room attendants at about 2:00 A.M. by an ambulance driver . . . After fifteen or twenty minutes the intern discharged the patient as a drunk. The factual problem is whether he should have pursued a more thorough course of inquiry and examination under the circumstances. No history of the man's condition or the facts leading up to his delivery to the hospital was at any time obtained. No x-rays were made. The hospital director himself testified that if a patient was unconscious and unable, as distinguished from unwilling, to give his name and state how he was injured when delivered to the hospital, then releasing him in the same condition would in his judgment fall below the standard of care required under the circumstances. . . there was adequate evidence of negligence in the treatment, examination and ultimate diagnosis of the decedent's condition to justify taking the case to the jury on that score.”

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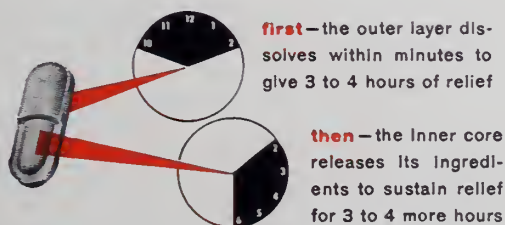
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Provides Dormethan (brand of dextromethorphan HBr) for non-narcotic anti-tussive action on the cough reflex center in the medulla—as effective as codeine but without codeine's drawbacks.

Provides terpin hydrate, classic expectorant to thin inspissated mucus and help the patient clear the respiratory passages.

[†]Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. E.: Clin. Med. 5:1183 (Sept.) 1958.

Special "timed release" design



also available for those patients who prefer liquid medication: Tussagesic suspension

Each TUSSAGESIC tablet provides:

TRIAMINIC® 50 mg.
(phenylpropanolamine HCl . . . 25 mg.
pheniramine maleate . . . 12.5 mg.
pyrilamine maleate . . . 12.5 mg.)

Dormethan
(brand of dextromethorphan HBr) 30 mg.
Terpin hydrate 180 mg.
APAP (N-acetyl-p-aminophenol) . . 325 mg.

Dosage: One tablet in the morning, midafternoon and in the evening, if needed.

Tussagesic^{*} *timed-release tablets*

*Contains TRIAMINIC to  running noses   and open stuffed noses orally

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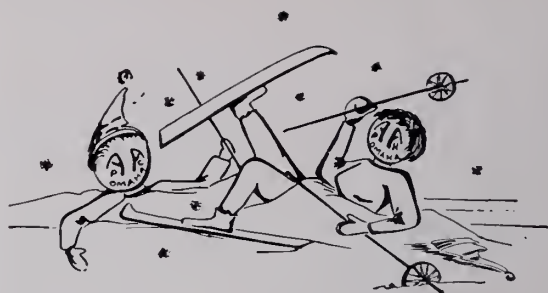
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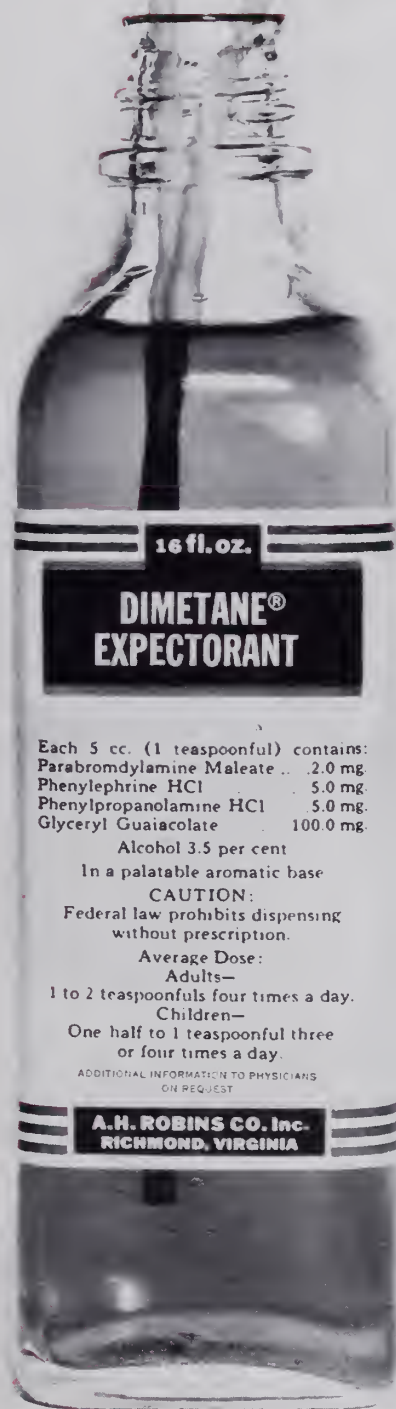
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the straws just symbolize the good flavor! And DIMETANE EXPECTORANT for cough is as effective as it is delicious. FORMULA: each 5 cc. (1 teaspoonful) contains: DIMETANE (Parabromdylamine Maleate) 2.0 mg.; Glyceryl Guaiacolate 100.0 mg.; Phenylephrine Hydrochloride, USP 5.0 mg.; Phenylpropanolamine Hydrochloride, NNR 5.0 mg.; Alcohol 3.5% in a good-tasting aromatic base.



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combines the unsurpassed antihistamine Dimetane with the clinically proven expectorant glyceryl guaiacolate (which increases R.T.F. almost 200%) and two recognized decongestants. When additional cough suppressant action is indicated, prescribe DIMETANE EXPECTORANT-DC, which provides the basic formula with dihydrocodeinone bitartrate 1.8 mg. per 5 cc. (exempt narcotic).

Dimetane® Expectorant
Dimetane® Expectorant-DC



(WITH DIHYDROCODEINONE BITARTRATE 1.8 MG./5CC.)

Exactly how does new Halodrin* restore the “premenopausal prime” in postmenopausal women?

Webster defines “prime” as the period of greatest health, strength, and beauty. In a woman, these are the childbearing years between puberty and menopause—the years when her hormone production is highest.

The inevitable reduction in this hormone production as she enters the menopause often results in physical discomfort in the form of hot flushes, nervousness, insomnia, or a multiplicity of other symptoms with which you are familiar. Superimposed on this physical picture is the psychic trauma brought on by this unavoidable evidence of aging. The thing that brings her to a physician is simply that she “feels bad.”

You can't make her 35 again—but the odds are good that you can make her feel like it! The secret is a combination of reassurance and hormones. The exact form and amount of the former defy objective analysis, but the latter can now be provided with scientific precision. Reduced to essentials, here is the explanation of exactly how hormones—in the form of Upjohn's new Halodrin—restore the “premenopausal prime.”

The normal premenopausal woman excretes estrogens in the urine in the form of estradiol, estrone, and estriol, in an approximate 28-day average ratio of 39:15:46. Starting with this urinary excretion of estrogens, it is possible to calculate backwards and estimate the amount of estradiol that must have been secreted endogenously in order to produce these urinary levels. This is possible because the proportion of estrogens which appears in the urine following parenteral administration has been established in castrated women.

On this basis, the average endogenous output of estrogens is about 160 micrograms per day during a menstrual cycle, and 80 micrograms per day in postmenopausal women (see chart opposite). Therefore, the restoration of the “premenopausal prime” in the postmenopausal woman requires the replacement of approximately the equivalent of the 80 micrograms of estradiol per day that she no longer secretes endogenously.

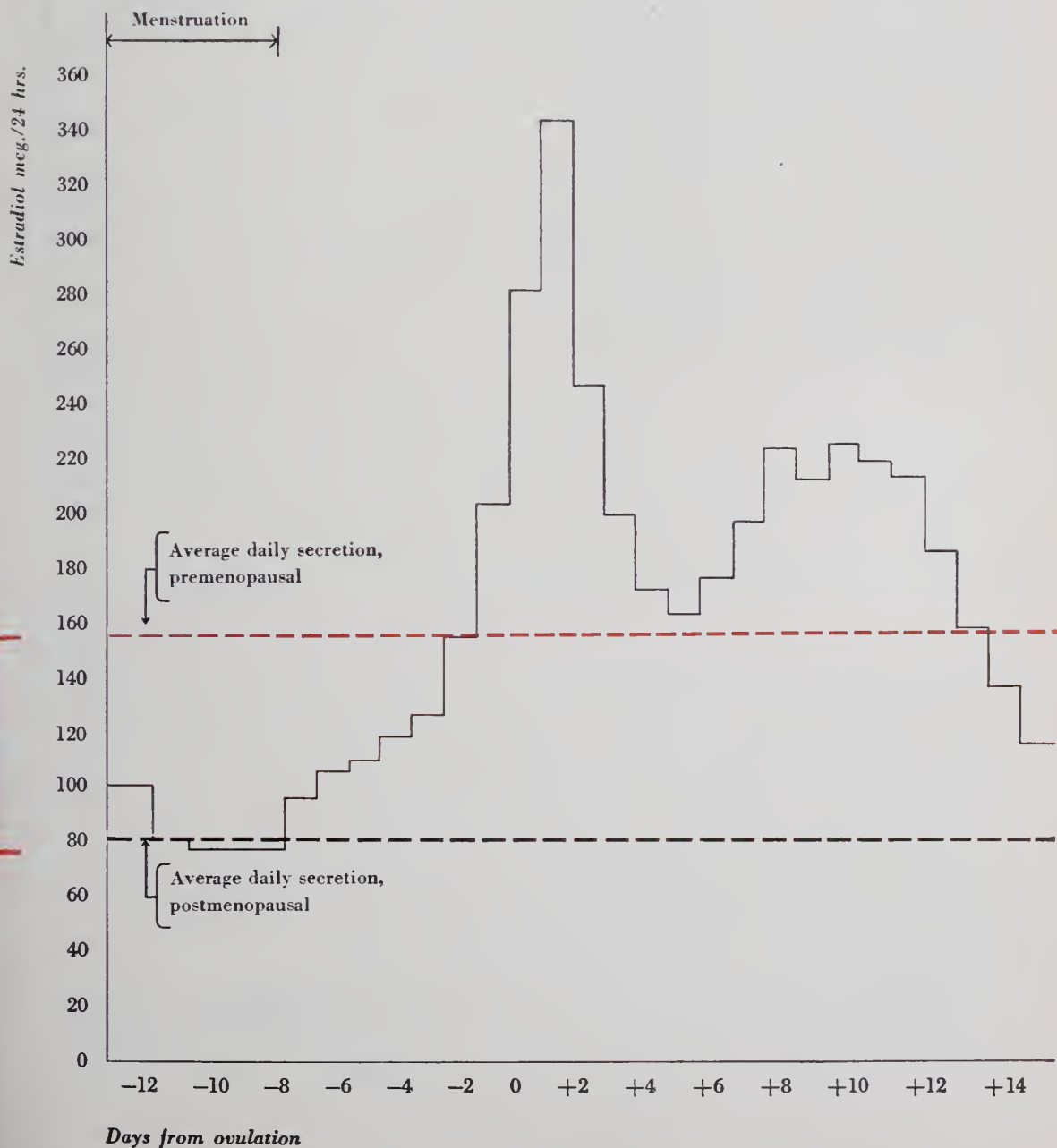
Oral ethinyl estradiol is about 2 to 2½ times as potent as parenteral estradiol. Therefore, the replacement of 80 micrograms of endogenous estradiol production per day is accomplished by the oral administration of 32 to 40 micrograms of ethinyl estradiol per day.

Each Halodrin tablet contains 20 micrograms of ethinyl estradiol, which means that the recommended dosage of 2 tablets per day provides 40 micrograms of ethinyl estradiol. This offsets the loss of 80 micrograms of endogenous estradiol production in the menopausal woman; i.e., restores the “premenopausal prime.”

Each Halodrin tablet also contains 1 mg. of Upjohn-developed Halotestin* (fluoxymesterone)—the most potent oral androgen known. The primary purpose is to “buffer” the ethinyl estradiol just enough to prevent breakthrough bleeding, which is obviously undesirable in the menopause. It also exerts other beneficial hormonal effects, one of which, in common with ethinyl estradiol, is a powerful anabolic action so desirable in patients of advanced years.

Upjohn

Endogenous estrogen secretion (mcg./24 hours)
 (calculated from average 24-hour urinary excretion
 of estradiol, estrone, and estriol)





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pHisoHex maintains normal skin pH, cleans and degerms better than soap. In acne, it removes oil and virtually all skin bacteria *without scrubbing*.

For best results—four to six washings a day with pHisoHex will keep the acne area "surgically" clean.

1. Hodges, F. T.: *GP* 14:86, Nov., 1956.

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BOOSTS APPETITE
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Each daily teaspoonful dose (5 cc.) contains:

L-Lysine HCl	300 mg.
Vitamin B ₁₂ Crystalline	25 mcgm.
Thiamine HCl (B ₁)	10 mg.
Pyridoxine HCl (B ₆)	5 mg.
Ferric Pyrophosphate (Soluble)	250 mg.
Iron (as Ferric Pyrophosphate)	30 mg.
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*increases the certainty of
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AS PROVED BY extensive clinical trials—an over-all success rate of more than 94% was achieved in a total of 3,280 cases.†

AS PROVED BY success in mixed infections—more than 95% of 1,000 acute and chronic respiratory tract infections were successfully treated; a 99% cure rate was achieved in mixed bacterial pneumonias.†

AS PROVED BY effectiveness in "problem infections"—a response rate better than 96% was recorded in a group of 221 gastrointestinal infections including chronic intestinal amebiasis; 91% of 465 urogenital infections were successfully controlled.†

AS PROVED BY excellent safety record—extremely well tolerated; discontinuance of medication was necessary in only 11 of 3,280 patients.†

*A significant number of the above cases had not responded
to other antibiotics.*

*Cosa-Signemycin is particularly valuable in home and office,
where susceptibility testing is difficult or impractical.*

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Average dosage: For adults, 1-2 Gm. daily in divided doses; proportionately less for children, depending on age, weight, and severity of infection.

†Literature and bibliography available on request.

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THE doctor's room in the hospital is used for a variety of reasons. Most any morning, you will find the internist talking with the surgeon, the resident discussing a case with the gynecologist, or the pediatrician in for a cigarette. It's sort of a club, this room, and it's a good place to get the low-down on "Premarin" therapy.

If you listen, you'll learn not only that doctors like "Premarin," but *why* they like it.

The reasons are fairly simple. Doctors like "Premarin," in the first place, because it really relieves the symptoms of the menopause. It doesn't just mask them — it replaces what the patient lacks — natural estrogen. Furthermore, if the patient

is suffering from headache, insomnia and arthritic-like symptoms due to estrogen deficiency, "Premarin" takes care of that, too.

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"ability to decide correctly has increased, while the illogical response to anxiety has diminished."¹

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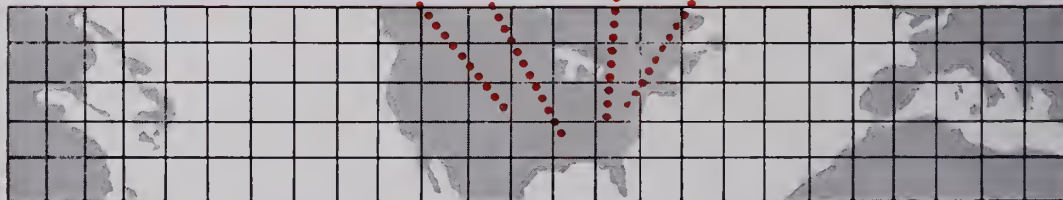
"especially well suited for ambulatory patients who must work, drive a car, or operate machinery."³

IN PEDIATRICS

"ATARAX appeared to reduce anxiety and restlessness, improve sleep patterns and make the child more amenable to the development of new patterns of behavior...."²

IN GENERAL

ATARAX is "effective in controlling tension and anxiety.... Its safety makes it an excellent drug for out patient use in office practice."⁴



INVESTIGATORS AGREE ON OPTIMAL ATARAX DOSAGES

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• Supplied: Tablets, bottles of 100. Syrup, pint bottles. • Parenteral Solution, 10 cc. • multiple-dose vials.

• References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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References: 1. Finkelstein, Murray: Journal of
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Investigator

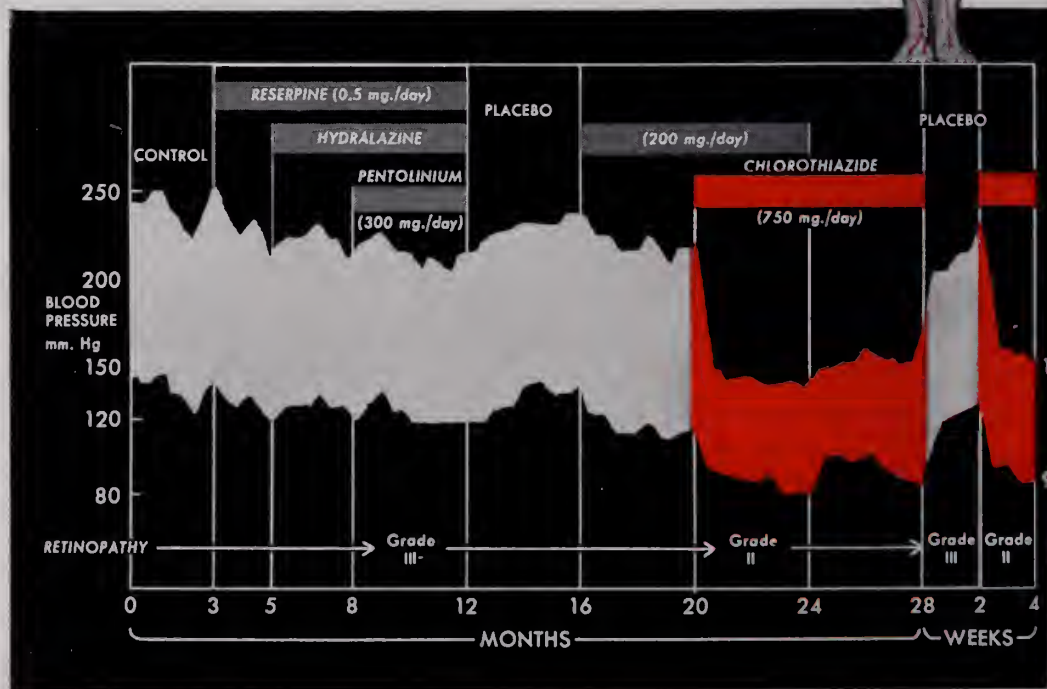
after investigator report

Wilkins, R. W.: New England J. Med. 257:1026, Nov. 21, 1957.

"Chlorothiazide added to other antihypertensive drugs reduced the blood pressure in 19 of 23 hypertensive patients." "All of 11 hypertension subjects in whom splanchnicectomy had been performed had a striking blood pressure response to oral administration of chlorothiazide." "... it is not hypotensive in normotensive patients with congestive heart failure, in whom it is markedly diuretic; it is hypotensive in both compensated and decompensated hypertensive patients (in the former without congestive heart failure, it is not markedly diuretic, whereas in the latter in congestive heart failure, it is markedly diuretic). . . ."

Freis, E. D., Wanko, A., Wilson, I. H. and Parrish, A. E.: J.A.M.A. 166:137, Jan. 11, 1958.

"Chlorothiazide (maintenance dose, 0.5 Gm. twice daily) added to the regimen of 73 ambulatory hypertensive patients who were receiving other antihypertensive drugs as well caused an additional reduction [16%] of blood pressure." "The advantages of chlorothiazide were (1) significant antihypertensive effect in a high percentage of patients, particularly when combined with other agents, (2) absence of significant side effects or toxicity in the dosages used, (3) absence of tolerance (at least thus far), and (4) effectiveness with simple 'rule of thumb' oral dosage schedules."



In "Chlorothiazide: A New Type of Drug for the Treatment of Arterial Hypertension,"

Hollander, W. and Wilkins, R. W.: Boston Med. Quart. 8: 1, September, 1957

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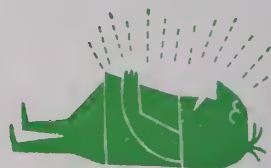
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Phenacetin (3 gr.)	194.0 mg.
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Propenpyridamine Maleate	12.5 mg.
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“It is concluded that the addition of buffering agents to acetylsalicylic acid in the concentrations used serves no clinically detectable useful purpose.”¹

¹Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, *Postgraduate Medicine*; 24:183, August, 1958.

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adverse reactions**

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SPONTIN IN SERIOUS

*A Special Report from Abbott
to the Medical Profession
on a Year's Clinical Experience
with SPONTIN®
(Ristocetin, Abbott)*

In a Spanish province, a patient lay dying of endocarditis. A short wave radio appeal for SPONTIN was intercepted by a Baltimore physician. The antibiotic was immediately flown to this faraway land, and 10 days later—the patient had recovered.

In Chicago, a moribund patient had been administered 18 combinations of 10 different antibiotics without success. Involved was a hospital-acquired staphylococcal pneumonia—plus complications. SPONTIN was substituted and the patient lived.

A five-week-old infant was critically ill with staphylococcal enteritis. Treatment failures included erythromycin and chloramphenicol. Three days of SPONTIN saved this life. The list is long and impressive and it grows daily.

Recently, a study¹ was made of serious and resistant staphylococcal infections reported to Abbott Laboratories. Many of these cases had serious complicating diseases—many were moribund, or almost so, at the time SPONTIN was started. Yet, out of the 160 staphylococcal cases studied, 93 were reported cured and 38 improved after the administration of SPONTIN.

Out of the total of 251 patients with severe infections caused by gram-positive or mixed organisms, 149 were reported cured and 53 others improved. And the record for pediatric practice was every bit as good.

Additionally, SPONTIN continues to exhibit exceptional bactericidal activity against coccal infections². And, according to another study, SPONTIN provides successful short-term therapy in endocarditis³.

Only last October, at the Antibiotics Symposium in Washington, D. C., a panel of six leading antibiotic experts placed SPONTIN at the top of all other commercially-available antibiotics for treating serious staphylococcal infections. Also, six papers—all dealing with the effectiveness of ristocetin (SPONTIN®) in treating staphylococcal infections—were presented at the Symposium.

One of the most encouraging aspects of the year's literature on SPONTIN is the increasing testimony to its safety. As the months have passed and cases have accumulated by the hundreds, it has become apparent that careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

A recent report⁴ in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a [well tolerated] and potent agent to employ in the treatment of staphylococcal infections." And in another study, after successfully treating 28 patients with a variety of staphylococcal infections, the authors reported⁵, "No serious complications were noted."

Few more dramatic records have been written in such a short space of time. SPONTIN has proved itself to be a good answer, perhaps the best answer at present, to the resistant staphylococcal problem—and of real value in other serious coccal infections. It may well be your answer when you're confronted with a serious infection.

Abbott

STAPHYLOCOCCAL INFECTIONS

Excerpts from Reports Read at the Antibiotics Symposium

Spontin In Treating Severe Respiratory Infections

—“In 13 of 20 patients the results were excellent, with clinical response being evident within one to four days after institution of therapy. In three additional patients, there was some degree of improvement in pneumonic processes superimposed on tuberculosis in two cases and on pulmonary neoplasm in one. In all other cases, serious antecedent pathology undoubtedly influenced the negative or equivocal response to ristocetin therapy.⁶”

Spontin In Treating Staphylococcal Infections

—After successfully treating 28 patients, the authors wrote, “Ristocetin or Spontin has proved to be bactericidal and bacteriostatic, particularly for the *Staphylococcus aureus*, which is often resistant to many other antibiotics.⁵”

Spontin In Treating Seven Difficult Cases

—“Ristocetin has produced excellent results in eradicating, mitigating or preventing infection in seven selected difficult cases. Six of the seven cases involved *Staphylococcus aureus* which did not respond to chemotherapy with other antibiotics.⁷”

Spontin Blood Levels In Children

—“Ristocetin was administered as a single intravenous injection of 12.5 milligrams per kilogram. This resulted in serum levels ranging from 1.3 to 10.6 mcg. after two hours with a gradual fall to a level of 0.7 mcg. per cubic centimeter or less after 12 hours.⁸”

Spontin In Treating Staphylococcal Pneumonia

—“Ristocetin was used in the treatment of 24 patients with staphylococcal pneumonia, 17 of whom had failed to respond to previously administered antibiotics. Complete clearing of pneumonitis was obtained in 16 patients and significant improvement occurred in two others. Two patients died of pneumonia; four others succumbed to other lethal diseases.⁹”

Spontin In Treating Children and Adults

—“Ristocetin completely controlled severe staphylococcal infections in 11 adults and six children who received adequate therapy.¹⁰”

1. Totals represent published reports and personal communications to Abbott Laboratories.
2. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
3. Romansky, M. J., and Holmes, R., Successful Short-Term Therapy of Enterococcal and Staphylococcal Endocarditis with Ristocetin—Seven Patients. Preliminary Report, Antibiotics Annual, 1957-58, p. 187.
4. J. A. M. A., 167:1584, July 26, 1958.
5. Bush, L. F., et al., The Use of Ristocetin (Spontin) in Staphylococcal Infections, In Press, Antibiotics Annual, 1958-59.
6. Billow, F. J., et al., Clinical Observations on Ristocetin—A Preliminary Report on its Efficacy and Toxicity in 20 Unselected Severe Respiratory Infections, In Press, Antibiotics Annual, 1958-59.
7. Miller, J. M., et al., Ristocetin in the Treatment of Seven Selected Difficult Cases, In Press, Antibiotics Annual, 1958-59.
8. Asay, L. D., et al., Ristocetin Serum Levels in Children, In Press, Antibiotics Annual, 1958-59.
9. Schumacher, L. R., et al., Experiences with Ristocetin in Staphylococcal Pneumonia: Observations in 23 Cases, In Press, Antibiotics Annual, 1958-59.
10. Terry, R. B., Ristocetin in Children and Adults, In Press, Antibiotics Annual, 1958-59.



“ankle-itis”

there's pain and
inflammation here...

it could be mild
or severe, acute or
chronic, primary or
secondary fibrositis — or even
early rheumatoid arthritis

more potent and comprehensive treatment than salicylate alone

assured anti-inflammatory effect of low-dosage corticosteroid¹ . . . additive antirheumatic action of corticosteroid plus salicylate²⁻³ brings rapid pain relief; aids restoration of function . . . wide range of application including the entire fibrositis syndrome as well as early or mild rheumatoid arthritis

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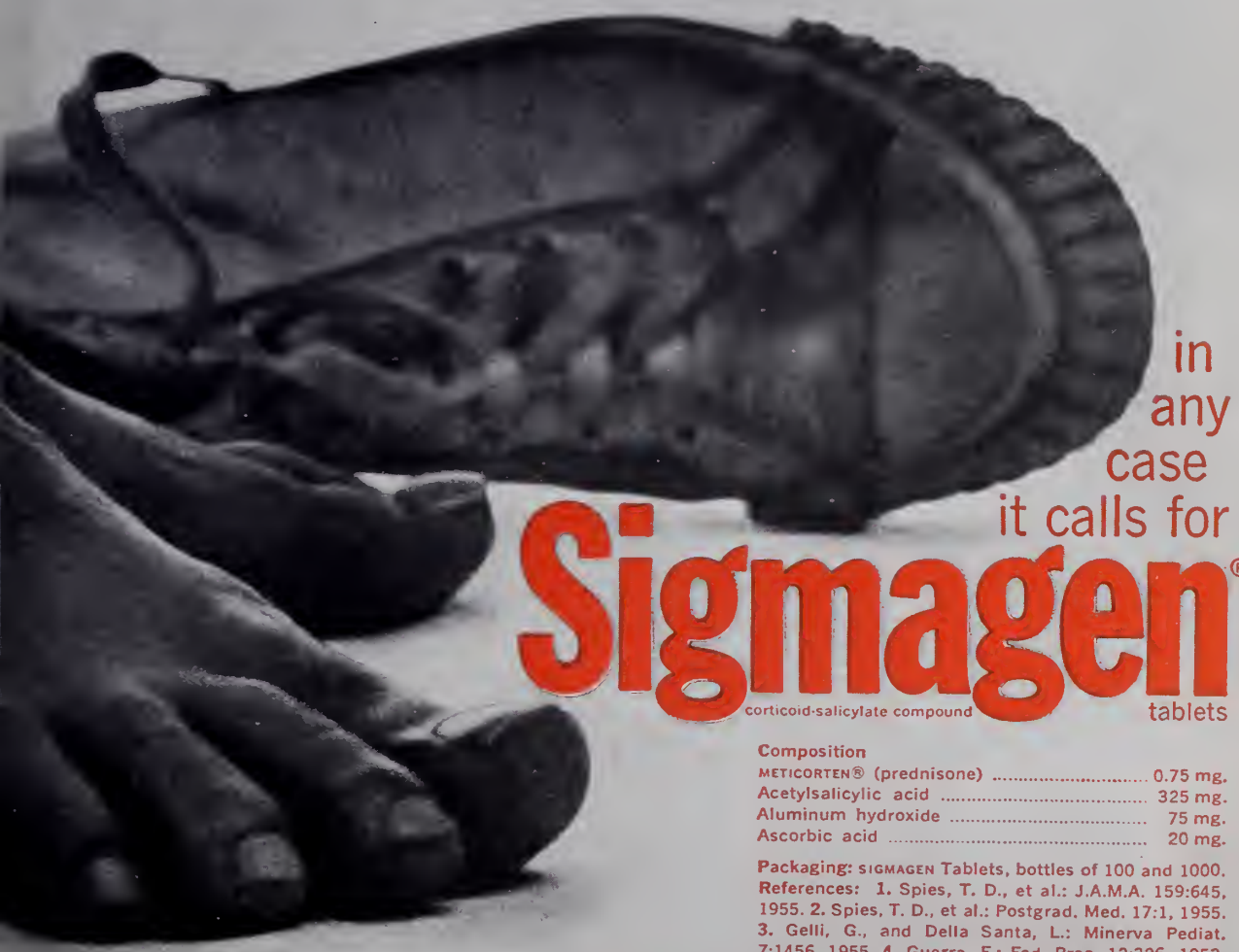
much less likelihood of treatment-interrupting side effects¹⁻⁶ . . . reduces possibility of residual injury . . . simple, flexible dosage schedule

THERAPY SHOULD BE INDIVIDUALIZED

acute conditions: Two or three tablets four times daily. After desired response is obtained, gradually reduce daily dosage and then discontinue.

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Acetylsalicylic acid	325 mg.
Aluminum hydroxide	75 mg.
Ascorbic acid	20 mg.

Packaging: SIGMAGEN Tablets, bottles of 100 and 1000.

References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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6 months to 2 years	1.5 to 2 cc.	
2 to 6 years	3 cc.	
adults and children over 6	1 tsp. (5 cc.)	

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.



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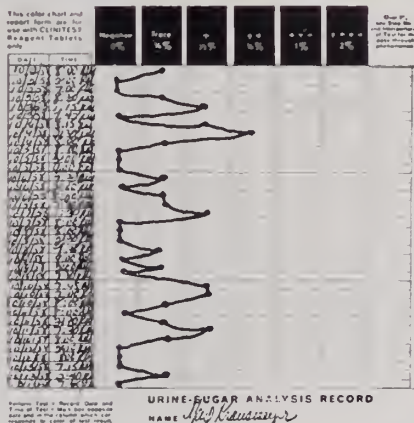
What differentiates "renal diabetes" (renal glycosuria) from diabetes mellitus?

Blood sugar levels. In renal glycosuria they are normal; in untreated diabetes, fasting blood sugars are usually 130 mg.% or over and postprandial levels 170 mg.%, or more.

Source: Joslin, E. P; Root, H. F; White, P, and Marble, A.: The Treatment of Diabetes Mellitus, ed. 9, Philadelphia, Lea & Febiger, 1952, pp. 701-702.

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DELAWARE STATE MEDICAL JOURNAL

Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31

FEBRUARY, 1959

NUMBER 2

RETROPERITONEAL HEMANGIOPERICYTOMA

Complete Contents on Page iv

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CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

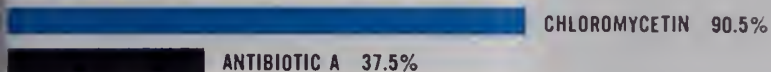
REFERENCES: (1) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* 30:175, 1958. (2) Roy, T. E., *et al.*: *Canad. M.* 77:844, 1957. (3) Markham, N. P., & Shott, H. C. W.: *New Zealand M. J.* 57:55, 1958. (4) Royer, A., in Welch, H. Marti-Ibañez, E.: *Antibiotics Annual 1957-1958*, New York, Medical Encyclopedia, Inc., 1958, p. 783. (5) Blair, J. & Carr, M.: *J.A.M.A.* 166:1192, 1958. (6) Caswell, H. T., *et al.*: *Surg., Gynec. & Obst.* 106:1, 1958. (7) Fekety, F. *et al.*: *Am. J. Pub. Health* 48:298, 1958. (8) Godfrey, M. E., & Smith, I. M.: *J.A.M.A.* 166:1197, 1958. (9) Kessler, A. & Scott, R. B.: *J. Dis. Child.* 96:294, 1958. (10) Shaffer, T. E.: *J. Michigan M. Soc.* 57:851, 1958.

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**IN VITRO SENSITIVITY OF PATHOGENIC STAPHYLOCOCCI TO CHLOROMYCETIN AND
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1958 (200 STRAINS)



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Adapted from Holloway and Scott.¹ In this study CHLOROMYCETIN
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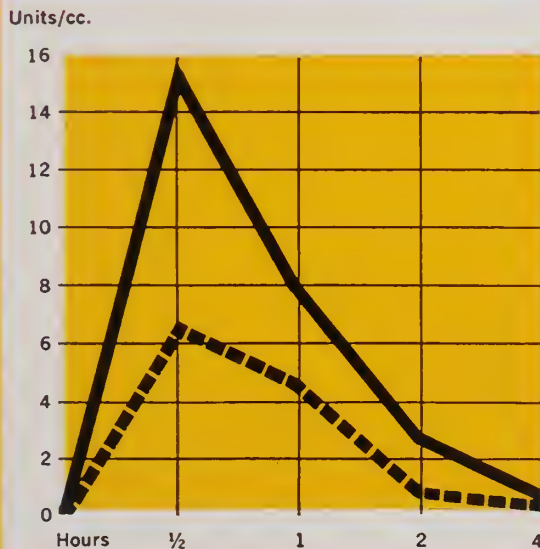
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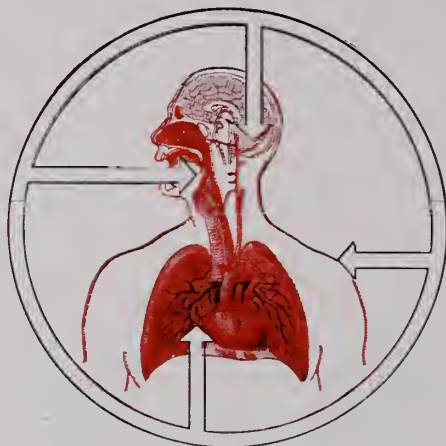
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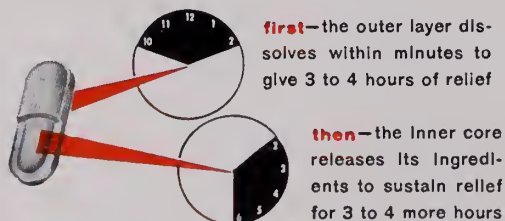
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[†]Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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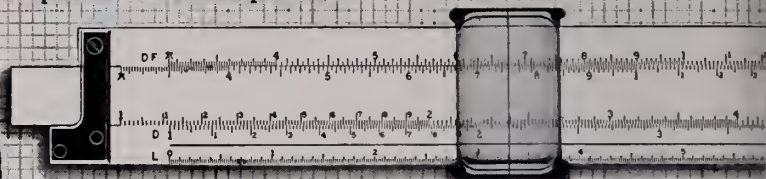
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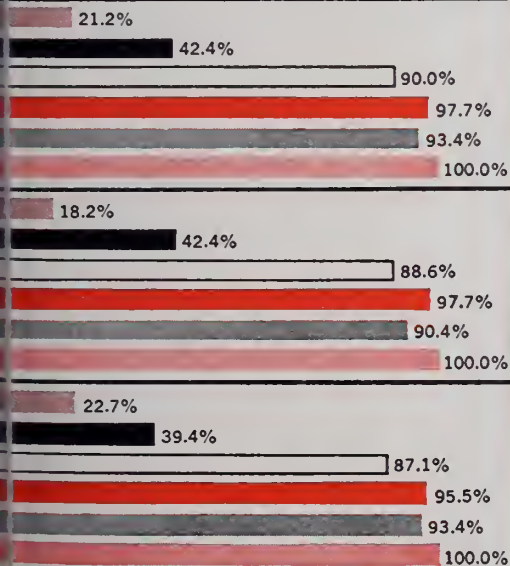
in the
patient:

95% effective in published cases¹⁻⁸

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory Infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	—	6
Otitis media	31	29	2	—
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue Infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	—
Abscesses	51	43	8	—
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	—
Pyoderma	19	19	—	—
Other skin and soft tissue (Infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	—
Genitourinary Infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	—
Urethritis with gonorrhea or cystitis	8	8	—	—
Pyelonephritis	4	1	—	3
Salpingitis	5	1	1	3
Pelvic inflammation with endometriosis	1	1	—	—
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)	42	30	8	4

the laboratory: 90% effective against resistant staph

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References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

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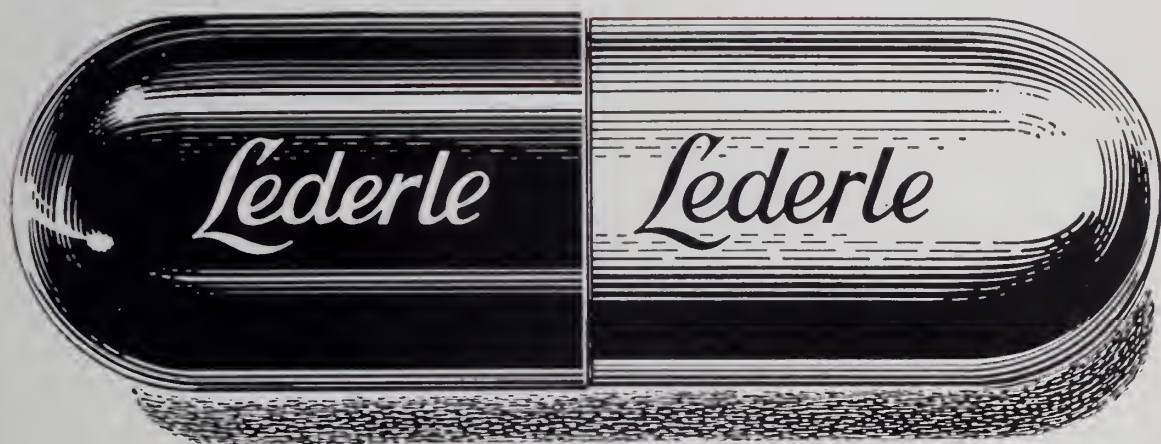
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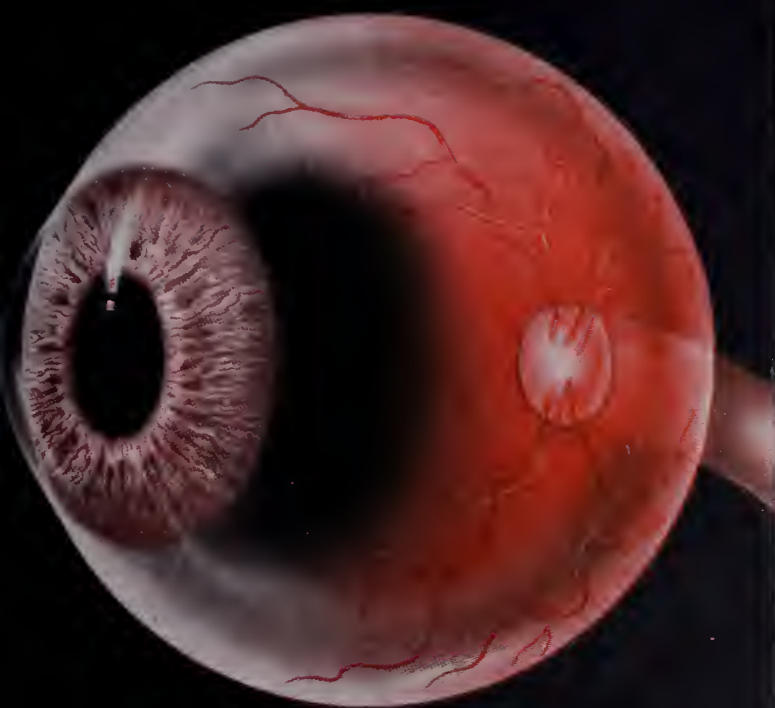
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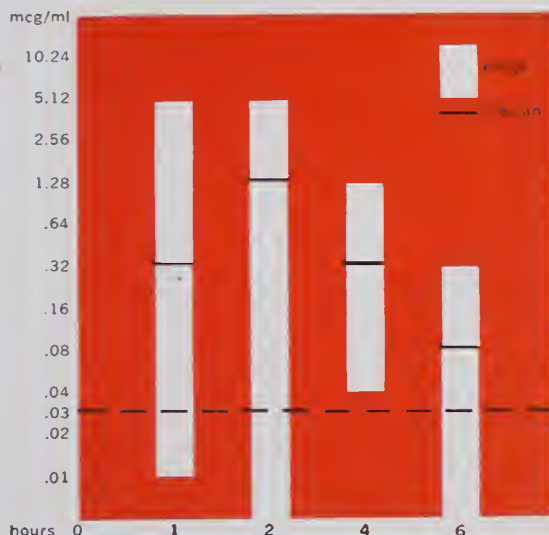
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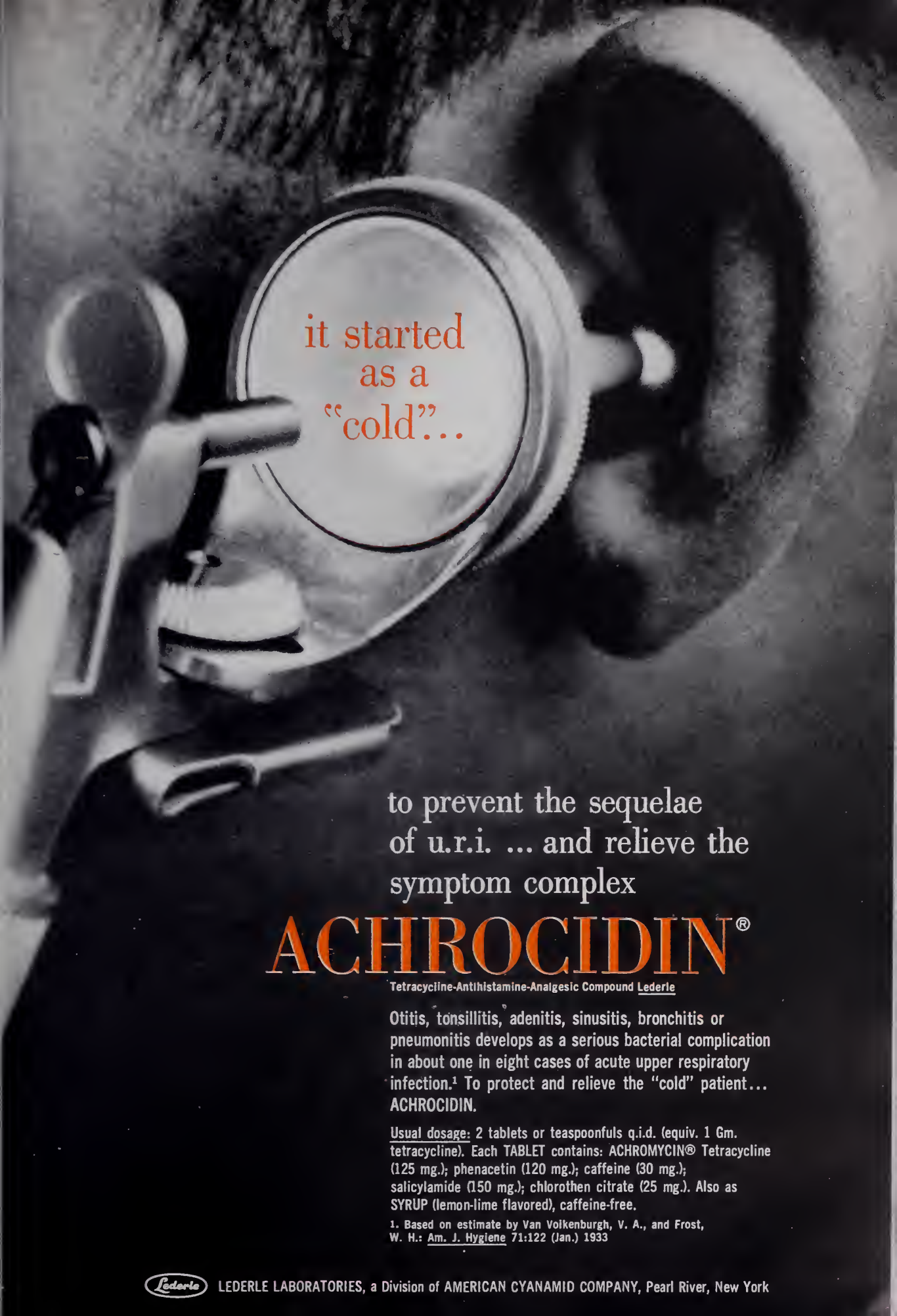
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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933



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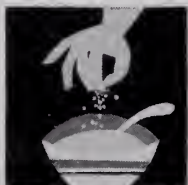
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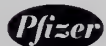
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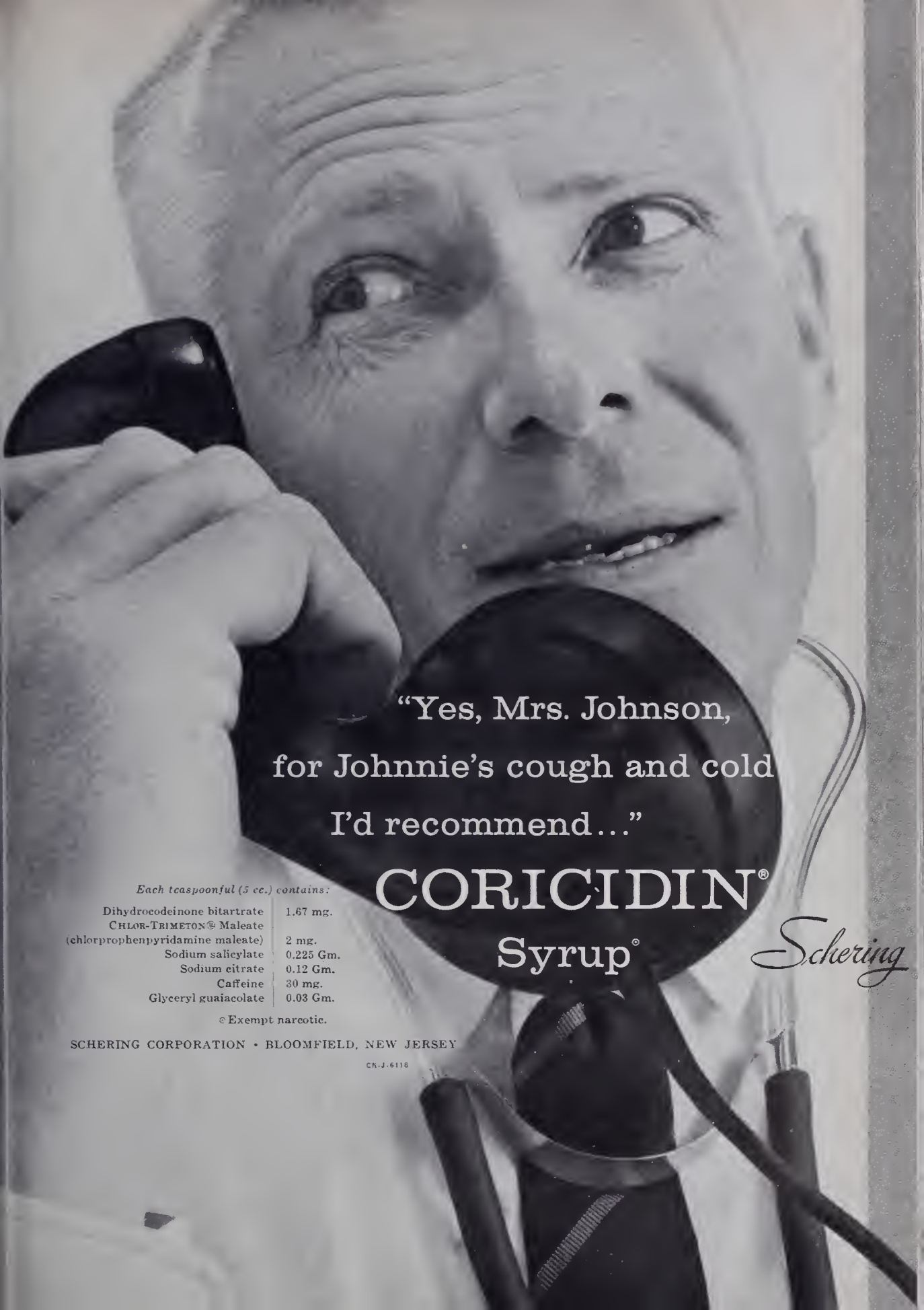
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RETROPERITONEAL HEMANGIOPERICYTOMA ASSOCIATED WITH HYPOGLYCEMIA AND MASCULINIZATION

JOHN W. HOWARD, M.D.* and PERK LEE DAVIS, M.D.**

Retroperitoneal or intra-thoracic fibrogenic tumors associated with hypoglycemia are one of the rare and most interesting causes of organic hypoglycemia. To the best of our knowledge, there are only 14 such tumors reported.¹⁻¹²

The following case of a retroperitoneal hemangiopericytoma associated with hypoglycemia and with masculinization is histologically similar in many respects to those previously reported.

CASE REPORT

A 17-year-old female was in good health until the summer of 1946 when, at the age of 16, she suffered attacks of colicky, left-sided, lower abdominal pain thought to be associated with kidney stones. In November, 1946, teachers noted emotional instability and weight loss. Early in 1947 her hair, which was normally black, became drier, coarser and more abundant and showed an increased tendency to curl. (Figs. 1 & 2) In March there were episodes of flushing of the face. By May, 1947, she was no longer able to handle the work re-



FIGURE 1
Patient aged 16.



FIGURE 2
Patient 1947 immediately post operative.

*Director, Department of Pathology, The Delaware Hospital, Wilmington, Delaware.

**Director, The Davis Clinic, Paoli, Pennsylvania.



FIGURE 3
Gross specimen 1947 showing soft brainlike tissue.

quired and reported difficulty in reading and focusing her eyes. During the next two months she appeared drowsy and on eight mornings lapsed into unconsciousness. When it was found that blood sugar dropped to 30 to 40 mgm. during an attack, they were relieved with sugar or intravenous glucose. At the same time the features gradually changed and she developed an acneform dermatitis on the face, upper arms, and back.

She was admitted to the Delaware Hospital on August 6, 1947 to ascertain the cause of the hypoglycemia and at that time a pelvic mass was discovered. On admission, her coarse dry hair had normal female distribution and was greater in amount on the arms and legs. She had a dark complexion, normal breasts, and skin texture, other than face, definitely feminine. The menstrual cycle was normal. The mass noted on the left side of the pelvis was grossly the size of an orange. The blood count appeared normal. Four plus glycosuria and a fasting blood sugar of 36

mg. per cent were reported. The admission cholesterol was 245 mg., the BMR 4 plus, and the Friedman negative.

The patient was operated on August 9, and an ovoid poorly encapsulated retroperitoneal tumor mass measuring 14 x 14 x 16 cm. was found. It filled the left pelvis and appeared to arise on the anterior surface of the sacrum. (Fig. 3) The uterus, tubes, and ovaries were normal. Grossly, the tumor mass was described as numerous pieces of partly encapsulated friable tissue which was easily broken and had the consistency of brain tissue. It was uniformly yellow, chalk-white in color. Histological sections of the retroperitoneal tumor mass revealed an ill-defined, uniformly solid microscopic pattern consisting of connective tissue type of cells arranged in wavy bands and pseudo-whorls without definite design. From field to field, there were suggestions of compressed vascular spaces. (Fig. 4) Larger vessels were inconspicuous. Reticulum stains (Fig. 5) revealed a pattern compatible with hemangiopericytoma

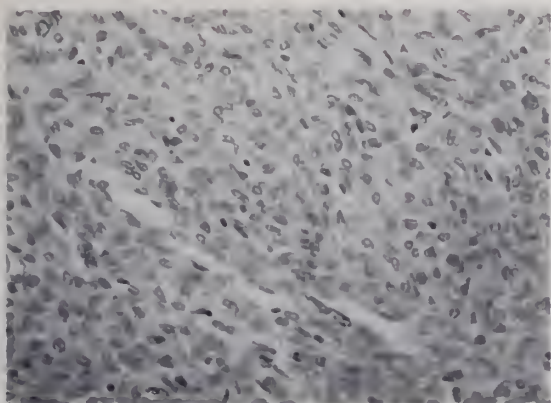


FIGURE 4
Photomicrograph of tumor showing
fibrogenic pattern.

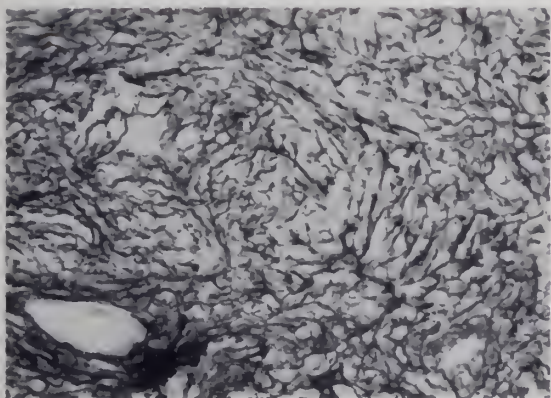


FIGURE 5
Hemanangiopericytoma. Laidlaw silver reticulum
impregnation (Foote's modification) showing
clearly defined capillary sheaths.

with many capillaries surrounded by pericytes enclosed within a reticulum sheath. Throughout there were irregular strands of collagen material associated with tumor cells. The nuclei showed few mitoses and varied in size and appearance from area to area. In some there was a preponderance of large fusiform round vesicular nuclei; in others, they were small, pyknotic, and stellate. Initial impression from responsible consultants included neurogenic sarcoma, endothelioma, sarcomatoid variant of arrhenoblastoma and malignant mesenchymal neoplasm. Subsequent review of this case by Dr. Lauren V. Ackerman and Dr. Arthur Purdy Stout suggested the diagnosis of hemangiopericytoma with which the majority now agree. No insulin assays were performed.

Post operatively, the patient recovered well. There were no further episodes of un-

consciousness and on a general diet the blood sugar did not fall below 90 mg. per cent. An insulin tolerance test revealed a fasting sugar 85 following 2.5 units of regular insulin; 30 minute sugar, 65; 60 minute, 85; 90 minute, 90 mg.; 120 minute, 95 mg. On August 28, Dr. A. E. Rakoff, Jefferson Hospital, Philadelphia, Pennsylvania, reported the urine gonadatropins as less than 6 mu. for 24 hours (diminished); 17 Ketosteroids, 2.9 mg. for 24 hours (diminished.) Urine estrogens were more than 200 mu. for 24 hours (excessive). He noted at this time that the hormone assays tended to point towards a pituitary-adrenal deficiency indicated by the low gonadotropins and the low 17 Ketosteroids. The low 17 Ketosteroids were against any masculinization tumor such as an arrhenoblastoma or an adrenal cortical tumor. In view of the high estrogens, the possibility of a granulosa cell tumor was suggested.

At the time of the patient's discharge the skin had become softened and free of lesions and the hair appeared less coarse and dry. The patient felt well and the only stigma appeared to be the thickened, kinky hair. During the next two years, the patient's condition did not change although there was some improvement in the texture of the skin and hair. She resumed her schooling until May, 1950, when a mass in the left lower abdominal quadrant was discovered. She was again admitted to the Delaware Hospital on June 5, 1950, at which time her physical condition was excellent. There was no evidence of hirsutism or previous skin or hair changes. RBC was 3 million; Hemoglobin, 10 grams. At operation a small metastatic mass of tumor tissue on the anterior abdominal wall at the site of the previous operative scar was removed together with several 5 cm. similar masses of tissue overlying the left psoas sheath. The left ovary was grossly thought to have been involved with tumor and was removed. The right ovary appeared normal. Pathological examination revealed that the ovary was normal and that the tumor was adjacent to it. The histological pattern of the tumor resembled that previously removed.

On December 12, 1951, the patient was

operated on at the Presbyterian Hospital in Philadelphia and had a right oophorectomy, a right salpingectomy, a hysterectomy and a resection of recurrent tumor in the pelvis omentum. On February 2, 1952, again at the Presbyterian Hospital, she was explored after having received nitrogen mustard. Two pieces of tissue were removed from the posterior parietal peritoneum along with iliac vessels. On both admissions, the histology appeared similar.

During the intervening time, the patient was graduated from the University of Delaware and had been teaching school (Fig. 6) She had married and in 1954 was ad-



FIGURE 6
Patient 1951 revealing normal features.

mitted to the Corona Naval Hospital in California and to the Philadelphia Naval Hospital in 1955 where additional abdominal masses of similar histological pattern were removed. The patient was followed at the Davis Clinic, Paoli, Pennsylvania, and was treated with intraperitoneal radioactive gold and intravenous TEPA together with the radiation. Anemia became a problem and on December 11, 1956, the patient returned to the Delaware Hospital for a series of transfusions to counteract the anemia, which at times was associated with a hemoglobin of 2.9 gm. The final admission was on January 18, 1957. Shortly after

admission, the patient became unresponsive although able to obey and have motor response to orders. The course was progressively downward and on January 25, 1957, the temperature rose to 104.8F and death occurred. Autopsy revealed numerous 1.0 to 10.0 cm. sarcoma nodules in the liver. There were small serosal implants on the intestine and a residual 10 cm. sarcoma nodule in the left pelvic wall at the site of the original operation. The brain showed extensive softening of the entire temporal lobe including the putamen, internal capsule and basal peduncles. The pituitary and adrenal glands were normal. Sections of the tumor were identical with those from the previous surgical specimens.

DISCUSSION

The association of hypoglycemia with tumors of apparent non-pancreatic origin has been observed with interest in recent years. Two cases associated with peritoneal pseudomyxoma¹³ and one with peritoneal mesothelioma¹⁴ have been reported. A much larger group with histological similarity has been reported and classified as fibromas, fibrosarcomas or fibrogenic tumors. To this latter group we have added another, making the current listed total of fifteen.

The present case, in addition to presenting clear-cut episodes of hypoglycemia, which did not recur after the initial operation, showed initial masculinization which also did not recur. Histologically, similar tumor recurred, but not as bulky as the original, until the terminal course. Table 1 lists the fifteen fibrogenic tumors with some recurrences associated with hypoglycemia and some not. No reported instances of associated masculinization were found.

When the fifteen fibrogenic tumors are reviewed as a group (see Table 1) they appear to have several common features. All tend to be bulky, they occur more commonly as retroperitoneal tumors although a few have been intrathoracic and each has a common spindle cell pattern that does not directly suggest pancreatic origin. How they produce hypoglycemia has resulted in many theories which have not been proved.

TABLE I
PUBLISHED CASES OF FIBROGENIC TUMORS AND HYPOGLYCEMIA

Year Reported	Author	Age Sex	Type, Location of Tumor	Size	Insulin Assay	Recurrence of Tumor and Hypoglycemia
1930	Doege (1)	50M	Fibrosarcoma mediastinum	10x6 inches 4½ lbs.		
1939	Seckel (2)	56M	Fibroma superior to right lobe of liver	Massive	Neg.	Yes
1942	Arkless (3)	45M	Rhabdomyofibroma diaphragm	2900 gm. 20x12x12 cm.		Yes
1943	Hines (4)	42M	Liposarcoma right upper quadrant	Grapefruit		Yes
1949	Staffieri (5)	25M	Spindle cell tumor, retroperitoneal	20x9x11 cm.	Neg.	
1954	Skillem (6)	68F	Neurofibrosarcoma right thorax	2440 gm. 24x18x17 cm.		
		70M	Retroperitoneal fibrosarcoma	4720 gm. 21x16x15 cm.		
1955	Howard, J. E. (7)	16F	Neurogenic fibrosarcoma region left adrenal	Grapefruit (21)	Neg.	Yes
1956	Silvis (8)	23M	Retroperitoneal fibroma	1200 gm.		
1956	Porter (9)	45F	Spindle cell tumor, retroperitoneal	20x16x13.5 cm.		
1957	Scholz (10)	47M	Perirenal fibrosarcoma	10.5x10x8 cm.		
		56M	Fibrosarcoma right lobe liver	Football	Neg.	Yes
1957	Holten (11)	41F	Retroperitoneal spindle cell sarcoma	Two fists		
1958	August (12)	82F	Intrathoracic fibrosarcoma	1370 gm. 14x14x14 cm.	Positive	
1959	Howard, J. W.	17F	Retroperitoneal hemangiopericytoma	14x14x16 cm.		

1. Stimulation of pancreatic insulin by tumor.

2. Excessive carbohydrate utilization by tumor.

3. Direct release of a hypoglycemic substance.

4. Atypical low grade islet cell tumor.

Of those listed, direct release of a hypoglycemia substance merits the greatest consideration today. Insulin-like substances (Insulinoid) in tumors has been reported.¹⁵

Several of the reported cases were assayed for insulin with negative results,^{2,5,7,10} although it is quite likely that the earlier methods used were technically not adequate. In a recently reported case by August and Hiatt¹² insulin-like activity in an intra thoracic fibrosarcoma was demonstrated. The assay utilized the rat-hemi-

diaphragm method of Vallance-Owen¹⁶ and revealed activity in the 1370 gm. tumor to be equivalent to about 600 units of insulin. This important contribution clearly indicates that a reappraisal of the metabolic nature of these fibrogenic tumors should be made. Although the technique is not suitable for the general laboratory, material can be fresh frozen and saved for assay as similar tumors appear.

The etiology of the masculinization in the present case cannot be satisfactorily explained, although initially there appeared to be some disturbance in endocrine balance and the assay nineteen days post operatively indicated a pituitary adrenal deficiency. The ovaries showed no abnormality either grossly or microscopically. Whatever the underlying cause of the early masculinization it, like the causative substance of the hypoglycemia, disappeared

after the initial operation suggesting a direct relationship with tumor tissue.

The recurrence of tumor without hypoglycemia has been noted in previous cases, and it has been suggested¹⁷ that these recurrent tumors may not be accompanied by hypoglycemia unless they become bulky. As our recurrence did not become bulky until terminally, it may be suggested that a variation in the character of the tumor can be directly related to the amount of hypoglycemic substance released. Similar theories also may explain the non-recurrence of the masculinization characteristics.

The designation of this retroperitoneal tumor as a hemangiopericytoma is the first instance in this particular group of fibrogenic tumors to be associated with hypoglycemia. In 1942 Stout and Murray¹⁸ and in 1949 Stout¹⁹ described this tumor characterized by small compressed capillaries lined by normal endothelial cells, with proliferation of spindle shaped or rounded tumor cells around these capillaries apparently arising from Zimmerman pericytes. Four of the 1949 series of 25 cases described by Stout were retroperitoneal in origin. Routine stains revealed a microscopic picture that appeared unorganized and jumbled. With the use of reticulum stains, the true nature of the tumor proliferation became evident in all cases. Later Stout²⁰ reported on thirty-two cases of hemangiopericytoma which demonstrated malignancy by aggressive growth in all and metastasis in fifteen. In this last series eight occurred in the retroperitoneum, mesentery or omentum.

The apparent histological similarity of this case with many of the published cases of fibrogenic tumors is striking. Nearly all cases presented a spindle cell pattern with varying amounts of collagen masses and an intensified vascular pattern, particularly when demonstrated by reticulum stains. Of particular interest in the case reported by August and Hiatt was the association of high insulin-like activity in areas where the tumor was more fibrous, less cellular and showed increased amounts of collagen. In contrast, the softer cellular areas from

the surface of the tumor mass were found to have 1,000 times less activity per gram.

SUMMARY

A case of retroperitoneal hemangiopericytoma associated with hypoglycemia and masculinization is presented. Initial removal of the tumor appeared to cure the hypoglycemia and masculinization. Later tumor recurrences were not associated with these changes. Fourteen similar fibrogenic tumors are briefly reviewed. The importance of modern bio-assay to aid in clarifying the relationship of this group of tumors and carbohydrate metabolism is indicated.

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COMBINED ROENTGEN THERAPY AND HEMATOPORPHYRIN FOR SPONTANEOUS MAMMARY CARCINOMA IN MICE*

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The present article is to report on the effect of roentgen radiation and hematoporphyrin in combination on spontaneous mammary carcinoma in C3H mice. A review of this type of experiment will precede a presentation of our results.

The curability of localized neoplasms by radiotherapy is determined by the therapeutic ratio, which is a differential sensitivity between the neoplasm and the adjacent normal tissue. When the neoplasm is more sensitive, a tumor lethal dose can be given safely. In most instances the therapeutic ratio is low and a cure is difficult.

Radiosensitivity often is regarded as a fixed state or as one alterable only in the direction of increased resistance. Differences in sensitivity of various tumor species are recognized, and differences in various individuals are well known. However, the concept of varying sensitivity in the same neoplasm in the same host at different times has not been sufficiently studied. A method of favorably altering the therapeutic ratio would offer a great improvement in radiotherapy. This could be accomplished by increasing the sensitivity of the neoplasm more than that of the host, or by increasing overall resistance with a greater change in the host. A drug doubling the resistance of a tumor would still be valuable if, at the same time, it trebled the resistance of the patient.

Important advances have been made in the last three decades in the physical aspects of radiotherapy. During this time few improvements in the biological or pharmacological approach in radiotherapy have been developed. Although more physical advances will no doubt be developed, the biological and pharmacological possibilities seem to offer more promise at this time.

REVIEW

The mechanisms of the action of ionizing radiation on tissue are poorly understood, and therefore, attempts to alter these mechanisms are groping. Radiation therapy can be thought of as localized chemotherapy since it initiates cellular chemical changes. Some of the more radiosensitive components of the cell are enzymes.¹

Normal and neoplastic cells often are different in the quantity but not the quality of enzymes and metabolites present. Neoplasms often have a lower concentration of a given metabolite or enzyme than normal cells. This is the basis for antimetabolite chemotherapy. Protection of normal tissues is thought to occur on a statistical basis due to more metabolite present and more surviving.²

Ionizing radiation probably exerts its effect in much the same way, and radiation can be considered a local multi-antimetabolite. Therefore a combination of radiation and antimetabolite drugs would seem desirable. Radiation effects on tissue are mediated through cellular chemical changes, and these chemical changes should be subject to modification as are other chemical

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processes. Since it has been shown that the concentrations of metabolites are different in normal and cancerous tissues, favorable alteration of the therapeutic ratio may be possible.

The comparison of chemotherapy for neoplastic and bacterial disease is interesting. Antibiotic therapy may cause death to a large percentage of infecting organisms and yet fail because of a small number which persist. The resistant organisms may succumb to a different antibiotic. Therefore it is sometimes wise to use two or three antibiotics simultaneously.

Similar reasoning applies in cancer chemotherapy. Although the neoplastic and bacterial cell populations are analogous in many ways, the reaction of their hosts is dissimilar. Ordinarily, antibiotics are potentiated by host resistance factors that are effective. Phagocytosis, antibody defense and other mechanisms come into play. Host defense factors in cancer are not understood, but they appear to be weak. Thus, chemotherapy for cancer must be thorough and effective without strong aid from the host.³

In addition to the rational approach of combining several antimetabolites and radiation, various other combinations of drugs and radiation have been studied for differing reasons. A number of studies have been carried out on purely empirical grounds. Empiricism should not be a cause for pessimism; consider the long time, successful use of many drugs, such as morphine, on this basis.

ANTIMETABOLITES

Kligerman and Shapiro⁴ have done impressive work in investigating the combination of radiation and antimetabolites. They used transplanted mammary adenocarcinoma 755 in C57 black mice and treated them with roentgen rays and several drugs. The drugs were chosen on a rational basis, each having been shown to have an antimetabolite or related effect on tumors. The drugs used were 8 azaguanine, testosterone propionate, desoxypyridoxine and 6 aminonicotinamide. Desoxypyridoxine is a vita-

min B6 antagonist, and testosterone propionate has been found to decrease the vitamin B6 concentration in tumor 755 which usually is low in this vitamin compared to normal tissue. 6-aminonicotinamide is a niacin antagonist and 8 azaguanine is a purine metabolism inhibitor.

The drugs were administered to C57 mice by multiple injections over a six day period. In the same six day period the transplanted mammary carcinomas on the thighs of the mice were given total tumor doses of 5,300 roentgens in three equal doses. Appropriate control groups were provided. Measurements were made of the tumors at the end of 25, 35 and 45 days in 5 groups embracing over 300 mice. In each group the test mice showed a much better result than the controls. Kligerman and Shapiro conclude that this type therapy is promising and their conclusion appears entirely justified.

Various other antimetabolites have been studied. Carpender and Lanier⁵ found 8 azaguanine of some value in mice in combination with radiotherapy but reported it of no benefit in humans. Lanier, Whitehead, and Gum⁶ have used aminopterin and 6-mercaptopurine with radiation in animals with some success.

Lanier, Whitehead, and Gum⁶ have used a halogenated urethane derivative to advantage in combination with roentgen irradiation of tumors in animals. In comparison with the effects in suitable control groups, the result of the urethane derivative plus radiation on two types of neoplasm in mice was encouraging. However, the best results were obtained in a group of mice receiving x-ray, oxygen and the urethane derivative.

ALKYLATING AGENTS

Roswit⁷ has used nitrogen mustard and radiation together in the palliative treatment of carcinoma of the lung. He believes that there are patients in whom the results are better than could be expected with either agent alone.

Krabbenhof and Leucutia⁸ have used radiation and nitrogen mustard together in human patients, also. They feel that the

results show an increase in survival times and that the approach is worthwhile, especially in the undifferentiated and oat cell types of carcinoma of the lung. Their conclusions are based on an experience with 393 patients.

Lochman and Morris⁹ used radiation and radiomimetic drugs together in 20 patients with lung cancer. They did not find the combination superior to radiation alone.

Thomas³ has found the combination of nitrogen mustard and radiation of value in palliation of intractable pelvic pain caused by persistent carcinoma from the bladder, rectum, colon, and ovary. He used this treatment in 60 patients.

A small catheter is placed in the aorta via percutaneous femoral artery puncture. It is located just distal to the renal arteries by fluoroscopic control. A tourniquet is placed on each leg and 20 mg. of nitrogen mustard injected. Thereafter the patient is given 1,000 to 2,000 roentgen depth dose to the midplane of the pelvis. During the radiation the catheter is left in place and a second dose of nitrogen mustard is given after the radiation. Relief of pain is often prompt and striking.

A similar technique has been used by others in palliative treatment of carcinoma of the cervix.¹⁰

The effects of a combination of radiation therapy and TEM in animals have been studied by Lanier, Whitehead, and Gum without conclusive proof of potentiation. However, the tumor effects seem greater than with x-ray alone.

Nitrogen mustard and radiation have been used together in the treatment of lymphomas and some leukemias with probable benefit beyond that of either agent alone.

HORMONES

The Grahams^{11,12,13} have conducted extensive studies of radiosensitivity of cervical cancer. After many years' work they conclude that radiosensitivity varies with time in the same patient as well as from one patient to another. They attempted to

select by cytological means the sensitive and resistant lesions prior to therapy. They also have attempted to alter sensitivity with a number of agents. They found testosterone propionate to be the most effective agent tried. In their opinion it enhanced sensitivity to radiation to a significant degree. From their experimental work they think that the radiosensitivity of the entire patient, and not just the tumor, is the important factor in the cure of cancer. The complete destruction of a neoplasm by radiation may be due to the effect of the rays on the vascular bed of the tumor rather than on the tumor itself. If such is the case, the state of total patient sensitivity may be the important factor rather than tumor sensitivity.

Nathanson¹¹ has used estrogens with x-ray therapy for metastatic carcinoma of the breast, and he believes that radiosensitivity is enhanced. He suggests that this may be due to an increased vascularity. This observation led others to try the same combination for advanced malignant salivary gland tumors. Eight patients were treated in this way and it was the subjective impression of the authors that more than usual sensitivity was exhibited.¹⁵

The effect of sex hormones and radiation in management of advanced breast carcinoma has been investigated also by Chu et al.¹⁶ No additive effects were found in a thorough study. The authors concluded, however, that there is no contraindication to this form of therapy and that "combined therapy is indicated in disseminated (breast cancer) disease."

Cortisone and ACTH effects on tumors treated by roentgen radiation have been studied also. Tumor bearing animals survived longer with the combination treatment than with x-ray alone, and there were fewer metastases. The authors conclude that the effects were due to hormonal modification of the radiation effect and not to a direct effect on tumor growth.¹⁷

OTHER DRUGS

Since neoplasms are often hypoxic, the effect of giving oxygen by inhalation during

roentgen therapy is a differential one in which the low oxygen concentration of the tumor is raised more than that of the normal tissue which already is at an optimal oxygen concentration. This results in an increased sensitivity in the tumor with little accompanying change in the adjacent normal tissue. Gray has studied this extensively and his work has been studied by others in both animals and humans.^{18,19,20} They agree with his conclusions.

Aureomycin has been used simultaneously with radiation in far advanced cancer. The investigators had no controls and they had only subjective impressions to report. They drew no firm conclusions but felt a number of the patients benefited from good results which could not have been expected from the radiation alone.²¹

Synkavite (sodium menadiol diphosphate) has been studied in humans by Mitchell²² as a possible radiosensitizer. Patients with various types of malignancy other than bronchogenic carcinoma were given the drug intravenously before radiation therapy and results were observed in comparison with control groups. It was concluded that the proportion of patients in the test group showing a good response was greater than in the control group. In a similar study of inoperable bronchogenic carcinoma the mean survival time from the first treatment was 9.38 months in the test group as compared with 3.89 months in the controls.

Many drugs show a protective effect against whole body radiation lethality in animals. Of these the most interesting and promising are those thought to function in protecting sulphhydryl enzymes. Cysteamine²³ and beta aminoethylisothiuronium (AET)^{24,25} are two of the best. Since tumors are sometimes poorly supplied with blood, these drugs might offer more protection to normal than neoplastic tissues. However, this has not been demonstrated and is mentioned only as a possible approach, which is the converse of various attempts to alter the therapeutic ratio by selectively increasing the response of the neoplasm.

PORPHYRINS

The phenomenon of photosensitivity caused by porphyrins has long been of medical interest. It led to studies to determine whether porphyrin-induced sensitivity extended to wavelengths in the x-ray range. Figge²⁶ studied this possibility in paramacia and concluded that porphyrins do enhance radiosensitivity in these normally resistant organisms. In other studies he has shown that porphyrins, especially hematoporphyrin, accumulate in human tissue of high mitotic index, including malignant neoplasms, some lymphatic tissues and embryonal tissue such as that found in a healing wound.²⁷

Because of the higher concentration of systemically administered hematoporphyrin in cancer, a favorable alteration of the therapeutic index is theoretically possible. Attempts to demonstrate this have not been conclusive although experiments have been conducted in mice and humans. Evaluation is difficult because of natural marked variation in sensitivity. Several observers have concluded, however, that this drug warrants further study.^{28,29,30}

MATERIALS AND METHODS

The study to be reported here was carried out with C3H mice of 18-22 grams weight. Each mouse bore a spontaneous mammary carcinoma. The mice were individually housed and were fed Purina Lab Chow and tap water at will. A two week quarantine was imposed after reception from Jackson Laboratory. The mice were immobilized and anaesthetized for irradiation by injection of sodium pentobarbital intraperitoneally. The dose was 1.25 mg. in 1 cc. of saline. Thereafter the breast tumors were irradiated with lead shields protecting the rest of the body. The irradiation factors were: KVP 100, MA 10, TSD 16 cm., filter 1 Al plus inherent, and a HVL of 2mm. Al. The calculated tumor dose was 2625 roentgen. This dose was chosen as a probable suitable dose for comparison of groups. Cures were not attempted.

Twenty mice were given 1 mg. of hematoporphyrin in 1 cc. of 1/6 M Lactate and

1.25 mg. of sodium pentobarbital in 1 cc. of physiologic saline by intraperitoneal injection. They constituted the test group. Twenty other mice were given 1 cc. of 1/6 Molar Lactate and the same anaesthetic. They were one control group.

The tumors in these two groups were comparable in size. The hematoporphyrin and lactate injections were given 24 hours before irradiation. Pentobarbital was given a few minutes before irradiation and x-ray doses were the same for the two groups.

A third smaller group was given the same porphyrin and barbital dose but no radiation.

All mice were housed and fed in the same circumstances. The entire experiment was carried out in four groups, and test and control groups were injected and irradiated within a few minutes of one another. There were 20 mice in the first group and 10 in each of three others. Measurements were made with the mice asleep. Each group was followed for 30 days after treatment and new measurements taken at the end of that time.

RESULTS

Two mice in the first group died during irradiation due to an overdose of sodium pentobarbital. One received a dose of 2.5 mg. and the other 2 mg. Thereafter each mouse received 1.25 mg. and all recovered promptly. There was a total of 20 mice in the test group.

Before therapy the tumors in this group showed a mean size of 35 cu. mm. After treatment with hematoporphyrin and x-ray the group mean measurement in 30 days was 17 cu. mm. In the control group of 20 mice receiving 1/6 Molar Lactate and x-ray the initial measurements yielded a group mean of 33 cu. mm. Thirty days later this group mean was reduced to 23 cu. mm.

In the final group of 8 mice which received hematoporphyrin but no x-ray, there was rapid growth of the tumor. In the same period of time the group mean rose from 36 to 102 cu. mm. These results are summarized in Table I.

TABLE 1.

Treatment	No. of mice	Initial tumor size in mm ³ (group mean)	30 days post treatment tumor size in mm ³ (group mean)
1. 1mgm. hematoporphyrin 1.25mgm sodium pentobarbital 2625r	20	35	17
2. 1cc 1/6M Lactate 1.25mgm sodium pentobarbital 2625r	20	33	23
3. 1mgm. hematoporphyrin 1.25mgm sodium pentobarbital	8	36	102

DISCUSSION

The choice of a dose of hematoporphyrin was not entirely arbitrary. Studies done elsewhere have shown 1 mg. per mouse to be a likely choice. There is some indication that large doses such as 5 mg. per 18 or 20 gram mouse might result in an increased radioresistance.³⁰ However, some dose other than 1 mg. might be more effective. Moreover, some dose of radiation other than that used might show more pronounced effect.

The timing is probably important. Injection of the hematoporphyrin after irradiation might give better results. This has not been studied. However, Thomas has pointed out that in combined therapy the pre-irradiation use of any drug that would interfere with the oxygenation or nutrition of the tumor probably would lessen the beneficial effect of radiation therapy. It has not been shown that hematoporphyrin functions to lower oxygenation or nutritional levels. In fact, hematoporphyrin may raise the level of tissue oxygen in tumors.

The use of an anaesthetic for immobilization in this type of experiment is undesirable. It introduces an unnecessary element or variable making interpretation more difficult because it seems definite that various anaesthetics decrease radiosensitivity.²³ Despite this disadvantage it was done as a matter of convenience.

The concept of combined therapy is based on broadening the spectrum of anti-neoplastic activity. There is no reason to require the use of only one or two agents. The ultimate best therapy may require several agents used simultaneously because it is possible that the optimal range of ac-

tivity will come not from one agent but from a combination of several. It would be interesting to add oxygen to the combination of x-ray and hematoporphyrin. An attempt with x-ray, hematoporphyrin, oxygen and nitrogen mustard, or some other chemotherapeutic agent, should be tried. Evidence for additive effects from multiple agents used simultaneously in tumor treatment is cited previously in this article.

It should be mentioned also that additive effects have been obtained in protecting animals from whole body radiation by use of several drugs known to protect individually.³¹ The rationale of that experiment may be directly transferable to cancer therapy by radiation.

In a study of combined therapy it is difficult to determine whether the effects of the drugs are due to a change in the tumor or the host. One could make the same statement regarding the radiation. The work of the Grahams has direct bearing on this question and they suggest it is modification of the host which is most needed. There is little experimental evidence available on this aspect.

Hematoporphyrin was chosen to study because of its known effect to sensitize tissue to ultraviolet wavelengths. It deserves further study. Another drug affecting reaction to ultraviolet light is 8-methoxypsoralen.³² Volunteer prisoner subjects receiving this drug exhibited an altered skin response to Arizona sunlight. Perhaps this drug would modify sensitivity to ionizing wavelengths.

Radiation results are at best difficult to interpret because of variations in tumor dose, time of treatment, fractionation and differences in tumor species and their hosts. Addition of various drugs to the picture compounds the problems of evaluation. The use of more than one drug at a time in combination with radiation makes a difficult interpretation even more difficult. Yet the theoretical possibilities of benefit require this trial.

Radiotherapists in general are reluctant to undertake cancer chemotherapy. Many feel that this is outside their responsibility

and specialty. However, the two forms of therapy may be synergistic and may become the treatment of choice for some malignant neoplasms. If so this treatment will require a physician with special training in radiation techniques, and the logical person to manage the therapy will be the radiologist.

SUMMARY AND CONCLUSIONS

1. A review of combined roentgen ray and drug therapy for cancer is presented and discussed.
2. Results of the effect of hematoporphyrin and x-rays used together to treat spontaneous mammary carcinoma in C3H mice are presented.
3. Under the given circumstances there is probable benefit from combining this drug with x-ray therapy.
4. After a survey of other similar experiments, it is believed that this area of study is promising, and that ultimately a practical and helpful form of therapy combining radiation and antineoplastic drugs will be found.

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MOTHERS' MILK BANK AT THE DELAWARE HOSPITAL

DONALD H. MCGEE, M.D.

At a meeting of the Junior Board in the spring of 1947 Dr. M. I. Handy told of technological advances in the care of premature infants. Despite these strides, Dr. Handy cited the need for mothers' milk for those infants for whom no satisfactory formula could be found. This information struck a responsive chord with Mrs. Harry S. Trentman, whose son had benefited from the existence of the Directory for Mothers' Milk, Inc. at the Boston Lying-In Hospital. A committee of three, under Mrs. Trentman, was appointed to work with Dr. Handy in the establishment of a mothers' milk bank located at the Delaware Hospital but intended to serve the state.

From this bank, mothers' milk is available for any baby on prescription by a qualified physician. If the parents are unable to pay, milk still is provided. The Memorial Hospital, St. Francis Hospital, and Wilmington General Hospital participate with the Delaware Hospital in this program and milk is equally available to infants in these hospitals. In each hospital nurses collect excess milk from mothers and send it to the milk bank. Infants are then supplied as their needs dictate.

During the summer of 1947 a committee reviewed the Boston program and made recommendations for a start at the Delaware Hospital. The beginning was on a small scale; the milk bank made use of the hospital's milk formula laboratory, and all of the work was done by Junior Board members. The work has increased to a point where a trained worker is employed to relieve the Board members of certain duties.

Currently, two committees supervise the milk bank program. The basic working committee is made up of members of the Junior Board of the Delaware Hospital with representatives from the Junior Boards in the St. Francis, Wilmington General,

and Memorial Hospitals. The duties of this committee include distribution of special water-operated pumps, instruction of donors, collection of milk, keeping records, and processing the milk. Milk is collected from donors' homes and brought to the milk formula room where selected samples are taken for bacteria counts and water and fat content tests. It is then pooled, pasteurized, labeled, frozen, and stored.

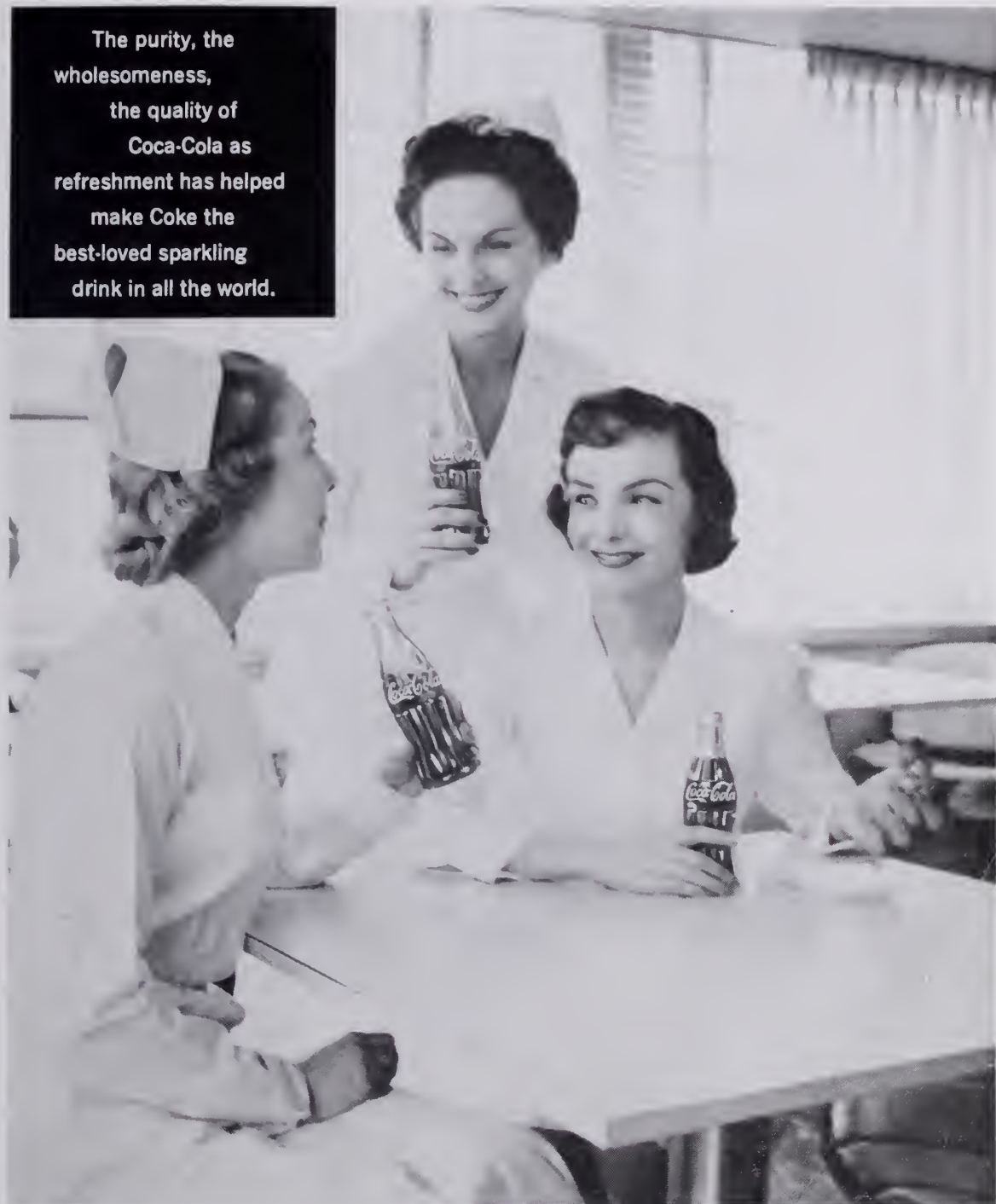
A second committee, called the Medical Advisory Committee, is made up of pediatricians and obstetricians who assist in the establishment of proper quality control and policy of a professional nature.

The milk bank has served not only patients in Delaware, but also in Massachusetts, California, and neighboring states. An infant in California required such large amounts that the milk banks of Los Angeles and San Francisco had to look eastward for an additional supply. They were referred to the Wilmington bank by the Boston Directory for Mothers' Milk which was unable to supply outside its own area at that time. The child received milk from our bank for several months.

The Boston Directory for Mothers' Milk, which furnished guidance for the establishment of the Wilmington bank through its Director, Miss Cornelia McPherson, was itself a recipient of milk. This occurred in the fall of 1957, when the supply of mothers' milk in Boston became dangerously low. Milk from the Delaware bank was used to help supply the Boston bank until a sufficient amount could be obtained in that area.

The adequate surplus of mothers' milk in a bank is dependent on the continued interest and effort of pediatricians and obstetricians. Unless mothers are encouraged to breast feed their babies, and are informed of the need for breast milk and

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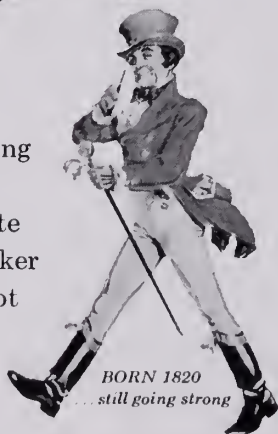
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the ease of contributing, the mothers' milk bank will fail.

There is much material in current literature, both medical and popular, concerning breast feeding. Using this for reference, the physician can usually persuade a mother to breast feed her child. A pamphlet is available for physicians' waiting rooms to aid in encouraging mothers to contribute surplus milk. In addition a letter is sent to

each new mother delivered in the participating hospitals before her discharge. Talks are given by the Chairman of the Milk Bank Committee to classes held by the Visiting Nurses' Association for expectant mothers.

Additional information concerning this program may be obtained from: Mothers' Milk Bank at the Delaware Hospital, Wilmington 99, Delaware.

EXPERIENCE WITH CHLOROTHIAZIDE (DIURIL) IN HYPERTENSIVE PATIENTS*

DAVID J. REINHARDT, III, M.D.**

Chlorothiazide (Diuril) has now been available on a prescription basis for a period of nine months. The instantaneous widespread acceptance by the medical profession at large has been little short of phenomenal. The pharmaceutical company which developed, tested, and now markets the drug has shown an increase of 100 per cent in the market value of each share of stock listed on the New York Stock Exchange. This has occurred during the past nine months and appears to be due primarily to this rather remarkable, apparently safe new diuretic agent, chlorothiazide.

The dramatic, widespread utilization of this new agent was due to several factors. First, it was said to be especially effective in treating congestive heart failure and other fluid retention states. Second, it was said to be nearly specific in the management of arterial hypertension. These two groups of patients encompass an estimated fifty to sixty million people in this country alone. The third factor was that preliminary reports indicated broad clinical safety in the use of chlorothiazide, although potential danger was suggested in long term use by its pharmacologic properties. A prior brief study, incorporating a small group of hypertensive patients, which is included in this discussion was one of these early enthusiastic reports.¹

The use of chlorothiazide has been continuous now for more than a year. The purpose of this paper is to summarize our observations on a larger group of hypertensive patients under treatment for an average period of more than six months. The

following analysis of the study group will show some of the dangers of this new drug and it is hoped, clarify the indications for the use of chlorothiazide in the broad range of the hypertensive spectrum.

METHODS AND MATERIALS

A total of 73 patients was studied. They were chosen at random and incorporated most of the etiologies of hypertensive disease. All degrees of vascular damage in the organ systems were represented. A control period of three separate visits or three separate days of blood pressure observation was carried out for each patient. The diagnosis of hypertension was made when the control diastolic pressure was consistently greater than 90 mm. of mercury. One exception is included whose blood pressure was 250/80, a patient with syphilitic aortitis, apparently involving the aorta and aortic valve.

The minimum therapeutic observation period was one month which included at least three separate visits. The maximum observation period was twelve months.

Cardiac, renal, electrolyte, metabolic, and hematologic laboratory studies were done prior to chlorothiazide and in most cases were continued periodically during the treatment period.

No restriction or cessation of other anti-hypertensive drugs was made prior to instituting chlorothiazide. The average period of observation with chlorothiazide in the 73 patients was 6.1 months.

Chlorothiazide was used in divided doses totaling 1.5 grams daily and in many instances was subsequently reduced to 0.5 Gm. as the pressure came down. An unrestricted diet was taken with only table salt limited.

* Presented at the annual meeting of the Delaware State Medical Society, October 2, 1958.

** Director of Hypertensive Clinic, Delaware Hospital, Wilmington, Delaware.

Supported in part by a grant-in-aid from the Delaware Heart Association.

In an effort to include significant alterations of both the systolic as well as the diastolic levels, the mean arterial blood pressure was used to classify the patient's response. This number is derived by adding the systolic and diastolic readings and dividing the total by two. The same figure for mean blood pressure could also be obtained by adding one half of the pulse pressure to the diastolic pressure. The mean blood pressure is also of value when working with a large study group of patients in that it is a single number and obviates the analysis of both systolic and diastolic figures.

RESULTS

The classification of results was done by averaging the mean blood pressures of each patient while receiving chlorothiazide. Diastolic grouping also was done to more clearly illustrate and confirm the results. For further simplicity, two response categories were recognized. A "good" response was considered to be either a reduction of mean pressure by 25 points, a reduction of at least 15 points to a level of 125 or below or a 50 per cent reduction of the dosage of ganglionic blocking agents with comparably good blood pressure control. All patients not fulfilling these criteria were classified as "poor" responses.

As the patients in this series represented two separate economic groups, a breakdown for this element as relating to blood pressure results was made (table 1). 76 per cent of the private patient group obtained a good response. 63 per cent of the lower economic or clinic group obtained a similar response. The differences probably are not significant statistically. There was, there-

TABLE 1

ECONOMIC DIVISION OF PATIENTS AND M B P RESPONSE			
	Total Number	Good Response	Poor Response
Private Patients	25	19 (76%)	6 (24%)
Clinic Patients	48	31 (63%)	17 (37%)
Total Patients	73 (100%)	50 (69%)	23 (31%)

fore, an overall good response of 69 per cent for the total group of 73 patients.

In an effort not to become confused by an unfamiliar term, the mean blood pressure, the adequacy of diastolic blood pressure control at or below the level of 100 mm. of mercury in both the "good" and "poor" response groups is illustrated (table 2).

TABLE 2

ADEQUACY OF CONTROL OF DIASTOLIC
BLOOD PRESSURE AT OR BELOW 100 mgm
Hg WITH CHLOROTHIAZIDE

	Total Number	Number Below 100	Percent
"Good" Response Group	50	37	74%
"Poor" Response Group	23	11	47%
Total Group	73	48	65%

In the "good" classification were 50 patients of whom 74 per cent were controlled below 100 mm. of mercury. The "poor" classification group of 23 patients had only 47 per cent below this level. The overall group showed that 65 per cent had what might be classified as adequate control with the addition of chlorothiazide. The purpose of this analysis is to indicate that chlorothiazide is not the final step, nor the answer, to blood pressure control, even when combined with other antihypertensive agents.

TABLE 3

COMPARISON OF TOTAL PATIENTS BY
DIASTOLIC GROUPING BEFORE AND
DURING CHLOROTHIAZIDE THERAPY

	Less than 100	100-125	126-140	More than 140
Before Therapy	7	46	13	7
With Therapy	48	20	4	0

Table 3 compares the previously mentioned diastolic categories, and is compared with the distribution of the average diastolic levels under treatment with this new compound. It is readily noted that a marked shift has occurred in these categories. This indicates the fact that chlorothiazide is a very significant antihypertensive agent.

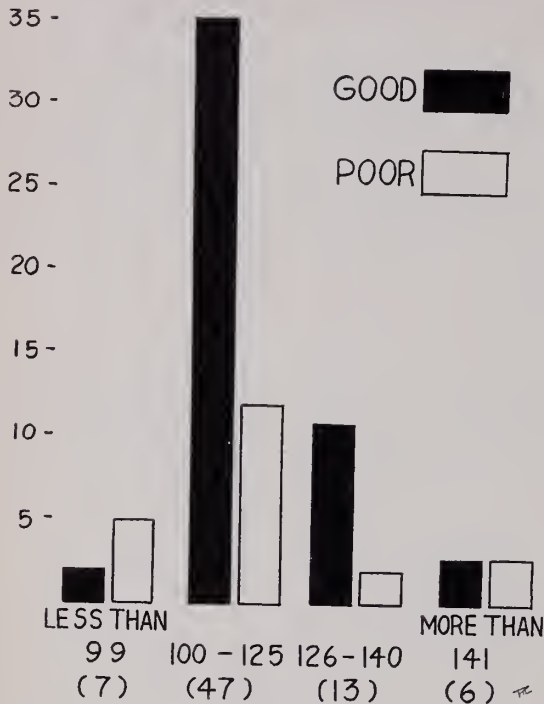


FIGURE 1
Patients responding according to pre-chlorothiazide diastolic pressure groups.

This graph (Figure 1) is a breakdown by prechlorothiazide diastolic blood pressure groups to determine if the level of the diastolic pressure is of any value in predicting whether or not chlorothiazide will be effective. The hatched bars represent the "good" response group in each category. The ordinate represents the number of patients in each bar and the abscissa shows the average control diastolic pressure groups.

Less than one third of the lowest bracket whose diastolic pressure was 99 or below achieved the "good" category. In the group between 100 and 125 more than 75 per cent obtained an adequate response. The same percentage was obtained in the more severe category of 126 to 140 mm. of mercury. The most severe group showed a 50 per cent good response. This graph suggests that those patients with only slight elevation of the diastolic pressure or those who have only a systolic hypertension will receive little and probably no benefit from chlorothiazide. The only effect one is likely to obtain may be a serious complication or, if the drug is given in a misled attempt to control a blood pressure which is not the result of arteriolarvasoconstriction but the

product of calcific vessels which have lost their elasticity, no benefit.

An attempt was made to correlate pre-treatment ranges of mean blood pressure with response to chlorothiazide (figure 2). The same trend is evident here as was seen in the diastolic pressure response. Patients with a low mean pressure respond poorly, while the percentage of good results is largest in the middle range of mean blood pressure.



FIGURE 2
Response by mean blood pressure classification.
Good — reduction of 25 points or to 125.
Poor — all others.

TABLE 4

ETIOLOGIC BREAKDOWN OF THE
STUDY GROUP AND RESULTS

	Number	Good	Poor
1. Renal Hypertension	6	4	2
2. Moderate Essential Hypertension	25	17	8
3. Severe Essential Hypertension	11	10	1
4. Malignant Hypertension	9	6	3
5. Arteriosclerotic	18	9	9
6. Post Sympathectomy	2	2	—
7. Toxemia of Pregnancy	2	2	—
8. Neurogenic	1	1	—

An attempt was made to show response in each of the various etiologic groups (table 4). The renal hypertension classification was applied to those having either

chronic glomerular nephritis, chronic pyelonephritis, polycystic kidney disease or hydronephrosis. A positive diagnosis was obtained by kidney biopsy or intravenous urogram in each case. Four of the six in this group did well.

The moderate essential hypertensive patients were characterized by average diastolic levels between 100 and 125. Two thirds of this group had a "good" response.

The severe essential hypertensive patients did well with more than 90 per cent showing a "good" response. The importance of sodium metabolism in this type of patient is important.

Those classified as "malignant" had at some time in the past, papilledema, or showed an extremely high diastolic pressure with evidence of a rapid down hill course.

The arteriosclerotic group was so classified by a relatively low diastolic pressure a wide pulse pressure and were, in most instances, past 60 years of age. The futility of aggressive treatment is obvious in the low percentage that were benefited by chlorothiazide.

The last three groups consisting of post-sympathectomy, toxemia of pregnancy and neurogenic hypertension all showed a good response.

TABLE 5

ANALYSIS OF "POOR" RESPONSE PATIENTS

A. Essential Hypertension	8
1. Irregular visits and medication	3
2. Chlorothiazide only administered	5
B. Arteriosclerotic Hypertensive Disease	9
C. Malignant Hypertension	3
D. Renal Hypertension	2
E. Severe Essential Hypertension	1
(Probable pre-malignant)	

An interesting aspect is an analysis of those patients who did not show an adequate response to the drugs. This is done, to a degree, in the above table (table 5). The essential hypertension group had eight unsatisfactory results. Three of these were irregular in attendance and often had exhausted their supply of chlorothiazide prior to the visit. The remaining five were treated

with chlorothiazide without additional antihypertensive measures, since the hypertensive state was not considered severe enough to warrant any further additions. It must also be added that many patients classified as "poor" results in actual fact did have varying degrees of blood pressure reduction, but not enough to qualify by the above mentioned standards.

The nine patients responding poorly in the arteriosclerotic hypertension group are remarkable only in that the "poor" results were not greater in number. Hypothetically, one would expect 100 per cent to be failures. The frequently seen arterial pressure elevation that occurs as a compensatory feature in early and frank congestive failure may contribute toward the misleading impression given by the 50 per cent who had a significant reduction in pressure with the addition of chlorothiazide.

The three failures in the malignant group also are understandable. This classification of hypertension is ill-defined and is clinically applied to any patient with a rapid progressive course which may at one time demonstrate the reversible entity of papilledema. Pathologically, it is the vascular lesion of the kidney described as arteriolonecrosis. Bechgaard² in his exhaustive study of 1,000 hypertensive patients followed for a period of 16 to 22 years, found only 13 who developed the "malignant" stage of hypertensive disease and these occurred during the first ten years of the study. This work would suggest that malignant hypertension is of a different etiology as compared to essential or severe essential hypertension.

In the above listing of nine malignant hypertensive patients who were treated in the study group, two had had sympathectomy. The resulting total of seven patients without sympathectomy showed four with adequate response and three who did not respond. Still, analysis of those classified as a "good" response reveals that the diastolic pressure was improved, but still not adequate, and did not achieve the generally accepted level for good control of 100 mm. of mercury or less. This would suggest that one or more types of pressor response was

active, and that sodium metabolism plays a rather insignificant part in the overall pathogenesis of the malignant picture.

The failure of control in one third of the renal hypertension group would point toward a humoral basis for this type of disease with sodium playing a variable and probably minor role.

The single failure in the severe essential group of 11 patients was probably due to the fact that the patient was in the malignant category but progression had been retarded by early drug therapy using older agents.

TABLE 6

	RESPONSE BY TOTAL MONTHS OF THERAPY			
	1-3 months	4-6 months	7-9 months	10-12 months
"Good" Response (50 Patients)	7 (14%)	19 (38%)	8 (16%)	16 (32%)
"Poor" Response (23 Patients)	8 (35%)	6 (26%)	4 (17%)	5 (22%)

One had the clinical impression that the patients' blood pressure would progressively improve as month after month of chlorothiazide administration continued. In an effort to substantiate or deny this impression (table 6), the "good" and "poor" groups were separated as to the total time of treatment in three month periods. The first three month period contained 14 per cent of the "good" response group as compared to 35 per cent of the "poor" group. A further breakdown to the two month level showed a ratio of "good" to "poor" response group of 22 per cent to 81 per cent. This further suggests increasingly good response with prolonged administration, and that the development of drug fastness with chlorothiazide does not occur, at least in the twelve month period from which these observations were taken.

As was previously mentioned, additional antihypertensive drugs seemed to increase the blood pressure response (figure 3). This graph shows the three groups of patient results when broken down into categories of types of drug therapy programs. It must be remembered in evaluating this graph that with each additional drug a more

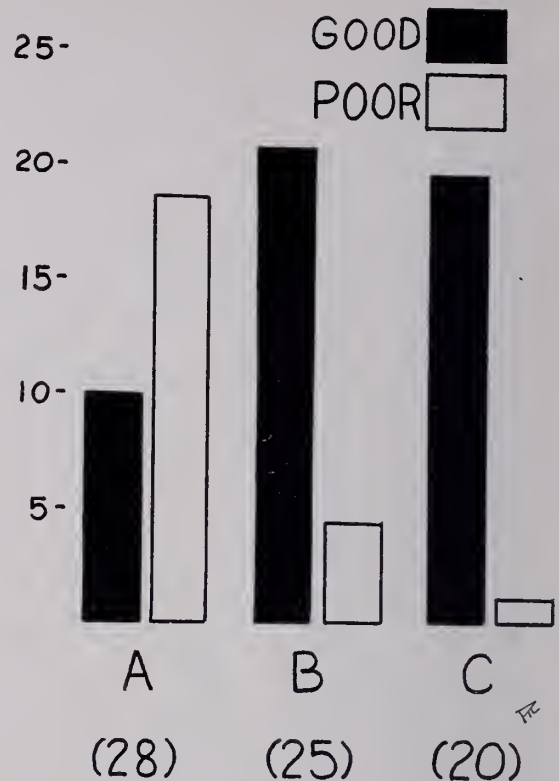


FIGURE 3

Response of mean blood pressure with and without other anti-hypertensive drugs.

A—Chlorothiazide alone.

B—Chlorothiazide and reserpine.

C—Chlorothiazide and reserpine and/or hydrolozine and/or mecamylomine.

severe grade of hypertension was present. In all instances chlorothiazide was added to the previously established program with the exception of those receiving chlorothiazide only. Most of the patients were in the diastolic range of 90 to 125 and were also newly discovered, thus they received no prior treatment. Because of the difference of degree of hypertensive severity between the groups, the percentages of response cannot be accurately compared. This applies specifically to the last group where three or four agents were needed. However, the first two groups are more similar. Chlorothiazide alone produced a "good" response in only one third of the patients.

However, 21 of 25 patients were classified as "good" when reserpine was added.

One would expect to find an excellent blood pressure response in those patients with congestive heart failure. Twenty-nine patients, or one third of the group were

TABLE 7

MEAN BLOOD PRESSURE RESPONSE OF PATIENTS UNDER DIGITALIS THERAPY	
Good Response	19
Poor Response	10
Total Patients	29

under treatment with digitalis. The "good" response criterion was fulfilled in two thirds of this group. This figure was much lower than anticipated. A recapitulation suggested that this group contained many arteriosclerotics and also many patients with terminal vascular degeneration, from which a marked pressure reduction could not be expected and might not be desired. It must be noted that nearly every patient in this category had a reduction in severity of the heart failure.

TABLE 8

MEAN BLOOD PRESSURE RESPONSE OF PATIENTS WITH RENAL IMPAIRMENT	
Good Response	9
Poor Response	6
Total Patients	15

Table 8 shows an attempt to evaluate the effect of chlorothiazide on hypertension when renal impairment was a factor. Again, the same percentage of patients showed improvement. This indicates that varying degrees of renal failure are not alone a contra-indication to blood pressure control with chlorothiazide.

TABLE 9

BEHAVIOR OF BUN WHEN RENAL IMPAIRMENT IS A FACTOR (15 PATIENTS)	
BUN not changed in 8	
BUN lowered in 2	
BUN increased in 5	

While considering kidney impairment, it was necessary to determine if the chlorothiazide would act in a toxic manner and accelerate the uremic process. Fifteen patients with urea elevation were studied and the results show only the usual downhill progression one would normally find over a period of six months.

TABLE 10

SIDE EFFECTS UNDER THERAPY		
A. Incidences of Side Effects		
Private Patients	16	(64%)
Clinic Patients	8	(16%)
B. Type of Side Effects		
Constipation	7	
Chronic fatigue	6	
Improvement of nocturia	4	
Dizziness	4	
Muscle aches	3	
Epigastric distress	2	
Nausea	2	
Mental depression	1	
Diarrhea	1	
Anorexia	1	
Pruritis	1	

In any pharmacologic evaluation, the incidence and type of side effect from the drug is important. Because of the differences in good management, intellectual capacity and physician-psycho-therapeutic element the economic division was applied to the whole group (table 10). It was evident that private patients were more sensitive, observant and probably more imaginable than the indigent clinic group. The differences of incidence of side effects of 64 per cent for the private group, compared to 16 per cent for the clinic group is striking, and indicates an important factor to be considered when evaluating a drug for the clinic-type patient. It also is indicative of the private patients' excessive introspection which must, at times, lead to imaginary symptoms. This also would reduce the value of the results from an objective standpoint. The economic breakdown only proves the value of having a combined evaluation in both groups to understand the true incidence of side effects.

The types of side effects were variable and, with the exception of the first four items listed, probably are not related to chlorothiazide. The common complaint of constipation could be due to a relative dehydration with an increased reabsorption of water from the bowel and hence a hard stool. The chronic fatigue of which six patients complained was suspected of being due either to electrolyte imbalance or sudden reduction of the blood pressure. However, the electrolytes in these patients were

found to be normal. It also was noted that there was no sudden drop of pressure in this group. Many other patients who had a sudden drop of pressure failed to complain of this sensation. One wonders about the effect of chlorothiazide on the metabolic balance of some of the lesser known trace elements for which accurate measurements are not clinically available.

The reduction of nocturia was a beneficial side effect which was not predicted at the start of the study. It occurred in patients with prostatic hypertrophy who were slightly obstructed at the bladder neck. The daily mild diuresis caused by morning administration of chlorothiazide apparently produced a mild nocturnal dehydration resulting in a reduction of urine excretion. The dizziness noted in four patients was actually a postural hypotension associated with change of position and did not require cessation of therapy.

TABLE 11

COMPLICATIONS UNDER THERAPY		
Hyperuricemia	(8 of 40)	20%
BUN elevation (Previously normal BUN)	(3 of 61)	5%
"Low Salt Syndrome"	(Whole group)	3%
Hyponatremia	(2 of 50)	4%
Hypokalemia	(1 of 55)	2%
Digitalis Intoxication	(3 of 29)	10%

Metabolic alterations and relatively more serious developments were considered under the heading of complications. The blood uric acid was elevated to abnormal levels in eight of forty patients tested. No acute gouty attacks developed during this period. Only one patient had a previous diagnosis of gout. The uric acid abnormality has been postulated by others³ to be the result of chlorothiazide acting on the lower tubule where the excretion of uric acid takes place.

The development of elevation of the blood urea nitrogen in three of sixty-one patients was duly recorded but was not seriously considered as a complication. A group of hypertensive patients of this size could normally be expected to show this change over a six month period.

Three patients developed a clinical low salt syndrome. Hyponatremia was proved in two patients of fifty who had serial blood

electrolyte studies done. In one of fifty-five patients hypokalemia was demonstrated. However, digitalis intoxication developed in 10 per cent and this may well represent either an intracellular reduction of potassium or possibly an alteration of the ratio of potassium to sodium at the cellular level.

TABLE 12

DEATHS UNDER THERAPY		
Total Number.....4 Patients		
Diagnoses:		Chlorothiazide a factor
A. Coronary Thrombosis	1	Possibly
B. Bronchogenic Carcinoma	1	No
C. Uremia (Chronic Nephritis) ..	1	Accelerating Factor
D. Low Salt Syndrome	1	Yes

The last analysis brings into sharp relief the greatest danger associated with a new potent pharmacologic agent.

In the group of 73 patients four died. In two of these it was felt that chlorothiazide was a contributory or accelerating factor and in one it was felt to have been the causative factor. The fourth was due to a bronchogenic carcinoma and therefore not implicated.

The first patient was a 52-year-old male who had a rather marked postural hypotension while under treatment with reserpine and chlorothiazide. His control blood pressure averaged 220/140 and moderate left ventricular hypertrophy was present. There was no suggestion of coronary disease by electrocardiogram or history. His treatment blood pressure showed a progressive reduction to the level of 110/70 at the end of six months. His wife related that he suddenly arose on the day of death to the standing position. He was immediately unsteady and complained of dyspnea which was followed by a crushing substernal pain not relieved by lying down and which was followed in 30 minutes by sudden death. The autopsy showed a fresh coronary thrombosis without infarction. It seemed reasonable to believe that the antihypertensive program was a strong contributory factor to death.

The second patient had uremia of a moderate degree and severe hypertension. The

blood potassium level was 7.0 meq. and the sodium was 133 meq. when chlorothiazide was initiated. He was placed on a full salt diet with 4 grams of sodium bicarbonate added. Chlorothiazide was started at a dose of 2 grams daily in an effort to reduce the hyperkalemia while supplying adequate exogenous sodium to prevent further depletion. On the seventh day vomiting developed, with intense weakness and muscle aching. At this time the sodium had dropped to 110 meq. and the potassium was even further elevated to 8.0 meq. The electrocardiogram showed changes suggestive of hypermagnesemia. Death followed shortly. Post mortem examination showed the small granular kidneys of chronic nephritis. Chlorothiazide triggered the rapid demise of this otherwise chronically ill but relatively stable patient who undoubtedly had a salt losing type of nephritis.

The third was a severe hypertensive patient under chlorothiazide treatment for six months. Moderate renal impairment was evident by borderline urea levels. Under stress, such as mild systemic viral infection, the urea would become elevated. Therapy included reserpine, hydralazine and mecamylamine. Following a brief period of several days of hot weather the patient complained of weakness, nausea, and constipation. The blocking agent was discontinued and a laxative given. The following day the patient was acutely ill with weakness, diarrhea, vomiting and had developed auricular fibrillation. The electrocardiogram failed to demonstrate any new myocardial or electrolyte abnormalities. It was unfortunately not possible to obtain blood sodium and potassium determinations. Other laboratory studies revealed the CO_2 to be 19 meq., BUN 96 mgs. per cent, Chloride 85.6 meq. with an alkaline urine. Saline was started intravenously but the patient died on the third day of illness shortly after the laboratory studies were obtained and before effective therapy for the suspected severe hyponatremia had been carried out. Post mortem examination was not granted. It was surmised that an acute low salt syndrome was produced by a combination of minimal renal function impairment, hot weather and chlorothia-

zide which resulted in sudden death. Renal function in the previous two years was identical with that just prior to the onset of the sudden terminal illness. The only factor which was different was chlorothiazide. The observers were in agreement that the terminal acute illness was probably precipitated by chlorothiazide.

After careful analysis of these three deaths it is concluded that chlorothiazide may be a factor in causing one death in as few as every 25 hypertensive patients under long term therapy.

DISCUSSION

The diagnosis of essential hypertension is still, after many years of intensive investigation, a common category which probably includes many different physiologic abnormalities characterized by increased peripheral arteriolar resistance. The most common abnormality is seen in sodium metabolism and it is in this type of patient that the saluretic activity of chlorothiazide is most beneficial. Other hypertensive states caused predominantly by humoral agents of the kidney or the central nervous system would not be expected to respond, as any change of sodium metabolism in these instances would be due to a prolonged hypertension. Consequently, sodium depletion by diet, resins or chlorothiazide would result in little if any improvement. I believe that the so-called malignant hypertension is of a different etiology than is essential hypertension with its demonstrated sodium metabolic fault.

It would then appear that a lack of improvement in a severe hypertensive state following therapy with chlorothiazide could be considered a diagnostic test and stimulate the therapist to a more extensive evaluation for some of the less frequent causes of hypertension.

In the earlier report of a small segment of this patient group the use of chlorothiazide was felt to be free of danger. The more extensive experience herein reported has produced a sobering realization that chlorothiazide is a potent chemical compound which can be deadly, especially in

patients with vascular damage from years of uncontrolled hypertension.

SUMMARY

1. 69 per cent of the general hypertensive population had a significant reduction of blood pressure when chlorothiazide was added to the present program.
2. No significant response difference is noted between the upper and lower economic group.
3. When the diastolic pressure is below 100 mm. of mercury prior to treatment it is unlikely that chlorothiazide will be of any benefit.
4. Systolic hypertension in an elderly individual should not be treated with chlorothiazide.
5. Renal and malignant hypertension should be treated with chlorothiazide although sodium is probably of minor importance in hypertension of these etiologies.
6. It appears that therapy with chlorothiazide should not be discontinued as ineffective in less than four to six months because of the apparent increasing effect with prolonged usage.
7. Chlorothiazide used alone is seldom effective.
8. Chlorothiazide and reserpine appear to be an excellent combination for

moderately severe hypertensive patients.

9. No evidence of drug fastness with long term therapy has been noted.
10. Patients under therapy with digitalis were found to respond as well as the overall hypertensive group.
11. Renal failure does not contraindicate the use of chlorothiazide; however, close observation is necessary as complications are more likely to develop in this group.
12. Hot weather increases the likelihood of electrolyte complications.
13. Digitalis intoxication developed in 10 per cent of treated patients.
14. Three deaths occurred in which chlorothiazide was suspect.

* * *

Appreciation is expressed to the Merck, Sharp and Dohme Co. for supplies of chlorothiazide as Diuril and mecamlamine as Inversine; to the Ciba Pharmaceutical Co. for supplies of hydralazine as Apresoline and reserpine as Serpasil.

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2. Bechgaard, P.: One thousand hypertonics followed for sixteen to twenty-two years, Abstract 3rd Inter. Cong. Int. Med., 17, 1954.
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+ *Editorial* +

This issue of The Journal contains several excellent articles that undoubtedly would have been published in a larger journal with national circulation had their authors so desired. We are pleased that it was decided to publish them in the authors' state journal. They will be widely read; at least one will be abstracted in the national journals. It is a good thing for The Journal to have articles of this calibre.

On the other hand it is hoped that these articles will not deter prospective young authors from submitting their material for publication due to a feeling of inferiority.

We have stated in the past that this is your journal; that the case report is a desirable subject for publication; and that a state journal is an excellent medium through which young physician-authors may gain experience. After almost three years in the job, your editor has some ideas on these subjects:

There is a wealth of clinical material in the state of Delaware. There are four general hospitals in Wilmington, four downstate, and four hospitals throughout the state limited to specific types of patients. In looking over recent issues of The Journal, it is obvious that this great source of material has barely been touched.

Some of the hospitals mentioned above have residency training programs. Physicians in training are preparing themselves for the practice of a medical specialty and it is desirable that the specialist make his views known to his colleagues by writing. The state journal is an excellent field upon which to train medical writers. Many of our

younger physicians refrain from writing case reports because of the belief that to do so would entail a detailed search of the literature, a time consuming procedure. This is not true. Many a good case has been ruined in its presentation by reason of too much extraneous material. A busy physician will not read what fifty previous authors said about a subject but he will read with interest and benefit a brief report that tells (1) what the patient had wrong with him, (2) how his condition differed from that seen in others, (3) the treatment used, (4) the course of the case, and (5) one good reference containing further references for those interested. Such an article is mutually beneficial to author and reader.

Many young physicians believe that writing is easy and that practice is unnecessary. They believe that as long as they keep up in their reading, they can merely sit down and write a finished paper in one draft. Many do just that, but papers so written rarely reach the typesetter. Good writing is hard and tedious work and consists of writing, rewriting, and rewriting. The state journal is equipped to give these young authors help; help for which they would be charged dollars and cents elsewhere. If their subject matter has any merit whatsoever, the paper is carefully reviewed by a professional copy rewriter who frequently corrects grammar, sometimes changes style, but never changes the meaning. The opportunity to see these manuscripts before and after revision is valuable training. From such training comes experience.

This is your journal. Support it and it will help you.

THE AUXILIARY'S CHALLENGE TO PROVIDE NURSES FOR A CHANGING WORLD AND A GROWING NATION

It would be as easy to tell of the exact beginning of time as to state the exact beginning of nursing. In pre-historic times, nursing was carried on in a crude form as cavewomen cared for their children and nursed the wounds of their men injured in battles and hunting expeditions.

As far back as 6,000 B.C., we read in the earliest written records of ancient civilization of customs of caring for the sick—some helpful, some harmful, some methods based on magic and superstition, and others still practiced in some form today.

In the time of Hippocrates groups of individuals were working together at nursing. These were religious groups devoting their lives to charity. During the dark ages when religious orders were in constant disagreement, nursing fell into disrepute. Only women of the worst sort would brave the homes and prisons to care for the helpless and the sick. It is from this era that Charles Dickens created "Sairy Gamp", who to this day stands for someone slovenly, always drunk, and completely immoral.

During the 1700's, groups of women known as Sisters of Charity, deaconesses, etc. were taught enough by physicians to enable them to give at least a minimum of care to patients.

In 1820, with the birth of Florence Nightingale, a light dawned on the history of nursing. She came from a wealthy English family and her work in the horror and bloodshed of the Crimean war is a story every history student knows. It was she who paved the way for women of the upper classes to enter this field, and, when she founded the first school of nursing at St. Thomas Hospital in London in 1860, she also founded the model for all training schools to follow.

After 1860, nursing as a profession grew and spread like a giant mushroom as more and more schools were founded. Nurses were now given the best of training as well as recognition of their place in society. During World Wars I and II, nurses added more laurels to their profession with their accomplishments on the battlefields of the world.

Times have changed so fast that the nursing profession is still struggling to catch up. Due to the shortage of nurses, we are grappling with one of the fundamental health problems of our time, and it is important that we plan activities and services both immediate and long term. There will continue to be a growing demand for nursing service over the next few decades. Experiences of the past half century have established trends which make such a demand inevitable.

In the years ahead, the population will increase by an unprecedented measure. More people will live to an older age, heirs to the degenerative diseases of longevity. Medical practice will broaden in scope with more precise methods of diagnosis and treatment. Public health and community service will expand. Society will demand more of the benefits of a growing knowledge of health and medical science as people become increasingly aware of these benefits.

With such prospects, only ordinary vision is required to realize that more nursing personnel will be needed for the myriad of other services expected of the nurse. Nursing education, as is true of education in many other professions, must prepare an adequate number of highly skilled practitioners so that nursing service may utilize a large and growing number of lesser prepared personnel. Only thus, can nursing assure to society the services society will demand of nursing.

Ahead, we can look for a healthy student potential. The war babies who skyrocketed the national birthrate are reaching college age. To nursing, this augments an expanding student enrollment. The post-war student deluge has reached the secondary schools. To keep pace with the growing nation and the rapid strides of medicine, nursing school applicants will have to be doubled by 1970 and now is the time to provide the potential teaching and supervisory staffs for these coming years.

In 1950 the Woman's Auxiliary became active in the Nurse Recruitment program. This was conceived fundamentally as a means of guiding young people to become deeply enough involved in the prospects for service in the profession that they would choose it as a career. We are still greatly concerned with the growth of the nursing profession, a growth that can be nurtured only through a most careful screening of the persons who will find professional service one of the chief ingredients of a satisfying life.

WHAT WE HAVE DONE

Since 1950, the Auxiliary has—

1. granted twenty-eight nursing scholarships to students entering training schools in Delaware.
2. sponsored an annual bridge party and fashion show to provide the funds for these nursing scholarships.
3. screened applicants for the Rotary Club of Wilmington and have selected forty-four successful candidates to enter training schools in the city of Wilmington. This is a remarkable record of achievement, and we publicly express our gratitude to the Rotarians for their support in this community service.
4. screened an applicant for the Zeta Chapter of the Beta Sigma Phi Sorority.
5. worked with the American Nurses Association in establishing Future Nurses Clubs in the high schools of Delaware.
6. provided refreshments for senior high school students who have attended pro-

grams on "Nursing as a Career".

7. provided each of the high schools in the state with information regarding our scholarship program and material for their library shelves on "Nursing as a Career".
8. manned the "Career Day" booth at the Harrington fair and provided bus transportation for attending students.
9. supplied information to applicants as to where they can apply for other sources of financial help or loans to pursue the career of nursing.

These are but a few of the projects undertaken by the Auxiliary to promote the recruitment of nurses.

We hope our program is still in the infancy stage, because the supply is still very snort of the demand. Scholarship aid is recommended to encourage those students who could not otherwise afford a nursing education, but who show indication of succeeding in a career in nursing. Scholarships for nurses can help provide the people of Delaware with sufficient high quality nursing service to maintain and improve community health. Everyone who uses nursing service, whether directly or indirectly, has a stake in helping to assure more and better nursing care.

HOW YOU CAN HELP

To you who are doctors.

You often have an opportunity to counsel patients or the sons and daughters of patients about their future careers, and many people turn to you for advice about entering nursing. Do you have up-to-date information about the opportunities for nurses, the types of educational programs, and other important facts at hand so that you can give informed guidance? Nursing career materials in your patients' waiting room are an effective aid to recruitment.

Some of our doctors have already established a yearly scholarship in the hospital of their choice. Would you care to do likewise? The cost of a nursing scholarship is between one hundred and fifty dollars and

three hundred dollars for the three year course depending on the individual hospital.

To you who are graduate nurses.

Remember that you do more than anyone else to influence the public's attitude toward nursing. A satisfied nurse who is vocal about her profession is the most efficient recruiter nursing can have. Keep up with what is happening in nursing so that you always know its selling points as a career.

To all Auxiliary Members.

Support our annual bridge party either

by attendance or a contribution. The proceeds from this affair are solely for the Nurses Scholarship fund. Remember the date this year is TUESDAY, APRIL 21, at the DU PONT COUNTRY CLUB.

Let us do all that we can to help those who accept the challenge of human service and have the assurance that in no other line of endeavor are the rewards so high and the satisfaction so enduring.

Kathleen E. Aikins (Mrs. James P.)
Chairman: Paramedical Careers
Recruitment Committee
Woman's Auxiliary to the
Medical Society of Delaware.

MAJOR MEDICAL MEETINGS IN DELAWARE

Standing Schedule

Beebe Hospital	General Staff	2nd Friday	Monthly
Delaware Hospital	General Staff	2nd Tuesday	Feb., May, Sept., Dec.
Kent General Hospital	General Staff	3rd Tuesday	Monthly
Memorial Hospital (Wilmington)	General Staff	2nd Tuesday	Jan., March, June, Oct.
Milford Memorial Hospital	General Staff	2nd and last Tuesdays	Monthly
Nanticoke Memorial Hospital	General Staff	1st Thursday	Monthly
St. Francis Hospital	General Staff	4th Tuesday	March, May, Oct.
		1st Tuesday	December
Wilmington General Hospital	General Staff	4th Tuesday	Jan., April, Sept., Nov.

Kent County Medical Society	Monthly Meeting	3rd Tuesday	September - June
New Castle County Medical Society	Monthly Meeting	3rd Tuesday	September - June
Sussex County Medical Society	Monthly Meeting	2nd Thursday	September - June

Delaware Academy of General Practice	Monthly Meeting	1st Tuesday	September - June
Delaware Pathology Society	Weekly Meeting	Each Friday	

Special Schedule

Medical Society of Delaware	Medico-Legal Symposium	A. I. du Pont Institute	February 22, 1959
Medical Society of Delaware	Seminar on Obstetrics	Milford Memorial Hospital	March 25, 1959
Medical Society of Delaware	Annual Meeting	Academy of Medicine	October 14-15, 1959
American Medical Association	Annual Meeting	Atlantic City, N. J.	June 8-12, 1959
Delaware Academy of General Practice	Symposium on Cancer Detection and Treatment	A. I. du Pont Institute	April 25, 1959
Delaware Academy of General Practice	Annual Meeting	Academy of Medicine	December 5, 1959
Delaware Academy of Medicine	"Sarcoidosis"	A. I. du Pont Institute	March 9, 1959
Delaware Academy of Medicine	Building Dedication	Academy of Medicine	October 13, 1959
Delaware Health Forum	"Emotional Development and Disturbances of Childhood"	P. S. du Pont School	February 24, 1959
Delaware Health Forum	"Life Stress and Bodily Disease"	P. S. du Pont School	March 24, 1959

Delaware Division, American Cancer Society	Annual Meeting	October 22, 1959
Delaware Chapter, American Heart Association	Annual Meeting	May 19, 1959
Mental Health Association of Delaware	Annual Meeting	April 30, 1959

WILLIAM N. FENIMORE**1886 - 1959**

Dr. Fenimore died on January 5th after a lengthy illness. After studying in the Wilmington Public Schools, Wilmington Friends School and Phillips Exeter Academy, he received his M. D. from Jefferson in 1921. He served in both World Wars, being a Captain in the Medical Corps in World War II. He was coroner's physician from 1932 to 1942.

Dr. Fenimore is survived by four sons, two daughters, and twelve grandchildren.

HOWARD N. STAYTON, JR.**1914 - 1959**

Born in Wilmington, Dr. Stayton was graduated from Wilmington High School and the University of Delaware. He received his M. D. from the University of Maryland in 1940 and served his internship in the Delaware Hospital. He then practiced in Lewes and Wilmington before leaving private practice in 1951 to become physician for the Chrysler plant in Newark. He was a member of the State Board of Health from 1950 to 1952. In addition to his wife, he is survived by three daughters and a son, and his mother.

E. HUGHES NUTTER**1909 - 1959**

Dr. Nutter died on February 24th after a short illness. Born on Tangier Island, Virginia, he was a graduate of Alexis I. du Pont High School and Ohio Wesleyan College. He received his M. D. from Hahnemann Medical College in 1935. After serving his internship at the Memorial Hospital (then the Homeopathic Hospital), he practiced in Newark until the time of his death. He is survived by his wife, a daughter and a son.



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*A Symposium on the Pharmacologic Effects of Dartal on the Liver, Chicago, Searle Research Laboratories, Feb. 7, 1958.



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1. Editorial: *New England J. Med.* 258:48, 1958.

2. Vinnicombe, J.: *Antibiotic Med. & Clin. Ther.* 5:474, 1958.

3. Sheth, U. K., et al.: *Ibid.*, p. 604, 1958.

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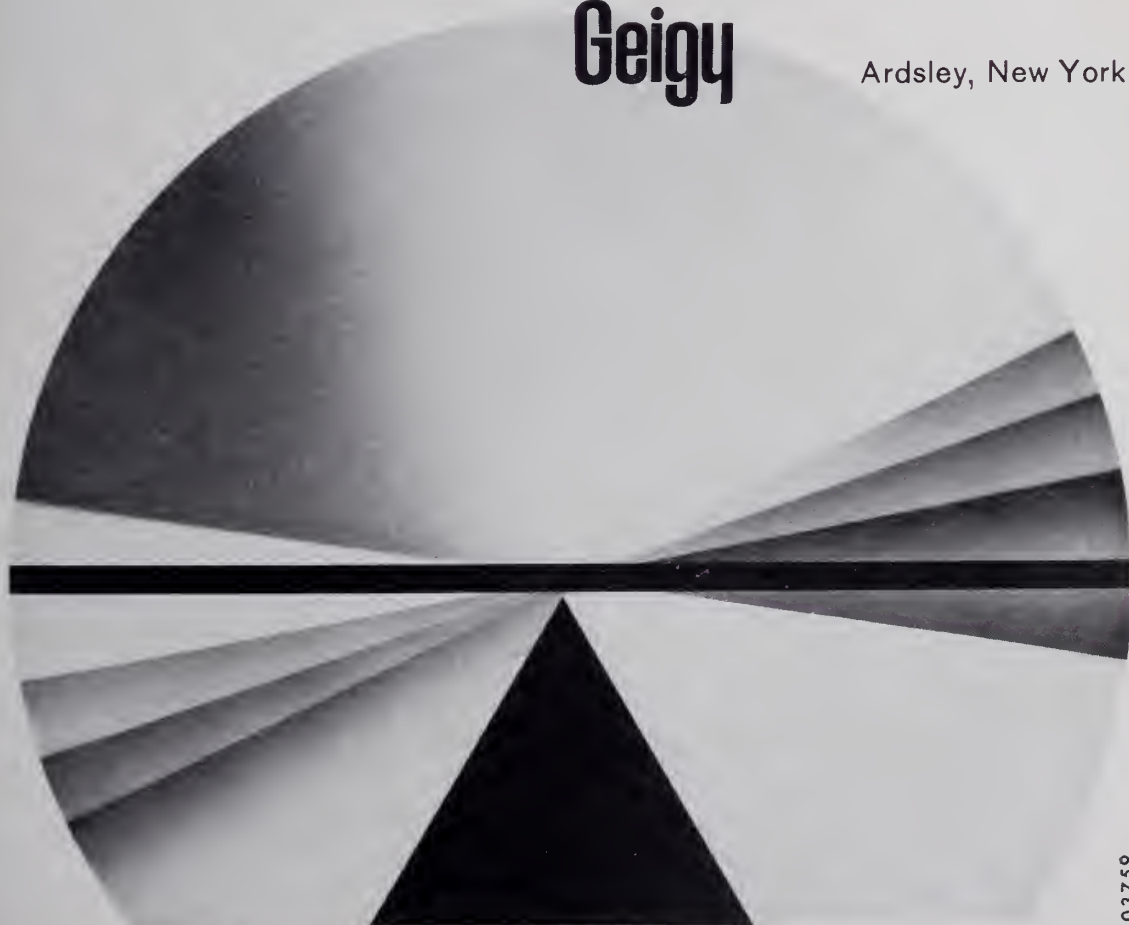
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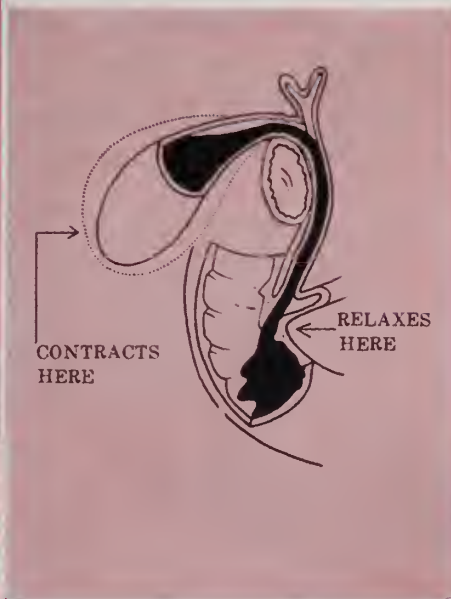
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References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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B ₆ (Pyridoxine)	1 mg.	††	††	
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The inevitable reduction in this hormone production as she enters the menopause often results in physical discomfort in the form of hot flushes, nervousness, insomnia, or a multiplicity of other symptoms with which you are familiar. Superimposed on this physical picture is the psychic trauma brought on by this unavoidable evidence of aging. The thing that brings her to a physician is simply that she “feels bad.”

You can't make her 35 again—but the odds are good that you can make her feel like it! The secret is a combination of reassurance and hormones. The exact form and amount of the former defy objective analysis, but the latter can now be provided with scientific precision. Reduced to essentials, here is the explanation of exactly how hormones—in the form of Upjohn's new Halodrin—restore the “premenopausal prime.”

The normal premenopausal woman excretes estrogens in the urine in the form of estradiol, estrone, and estriol, in an approximate 28-day average ratio of 39:15:46. Starting with this urinary excretion of estrogens, it is possible to calculate backwards and estimate the amount of estradiol that must have been secreted endogenously in order to produce these urinary levels. This is possible because the proportion of estrogens which appears in the urine following parenteral administration has been established in castrated women.

On this basis, the average endogenous output of estrogens is about 160 micrograms per day during a menstrual cycle, and 80 micrograms per day in postmenopausal women (see chart opposite). Therefore, the restoration of the “premenopausal prime” in the postmenopausal woman requires the replacement of approximately the equivalent of the 80 micrograms of estradiol per day that she no longer secretes endogenously.

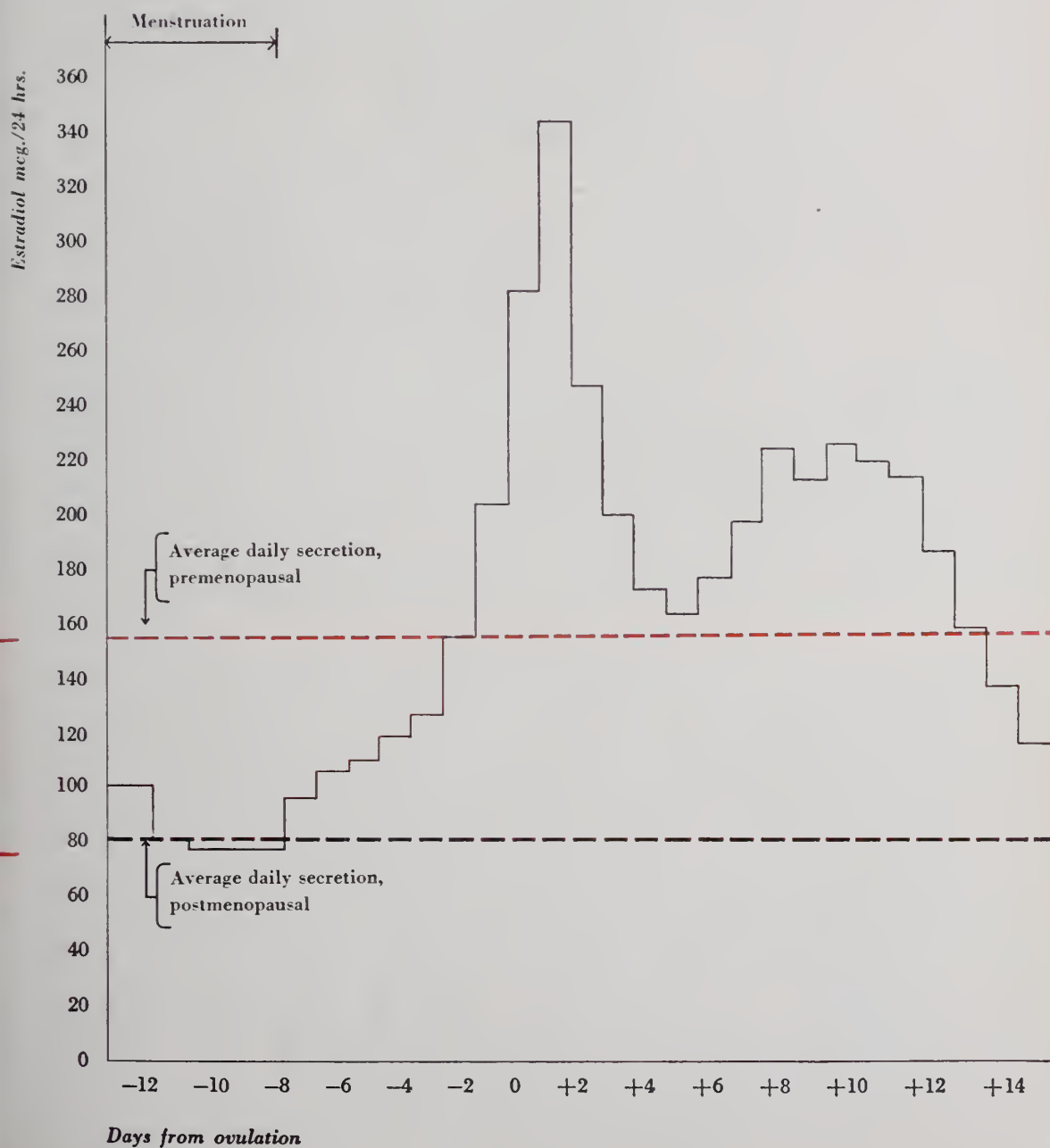
Oral ethinyl estradiol is about 2 to 2½ times as potent as parenteral estradiol. Therefore, the replacement of 80 micrograms of endogenous estradiol production per day is accomplished by the oral administration of 32 to 40 micrograms of ethinyl estradiol per day.

Each Halodrin tablet contains 20 micrograms of ethinyl estradiol, which means that the recommended dosage of 2 tablets per day provides 40 micrograms of ethinyl estradiol. This offsets the loss of 80 micrograms of endogenous estradiol production in the menopausal woman; i.e., restores the “premenopausal prime.”

Each Halodrin tablet also contains 1 mg. of Upjohn-developed Halotestin* (fluoxymesterone)—the most potent oral androgen known. The primary purpose is to “buffer” the ethinyl estradiol just enough to prevent breakthrough bleeding, which is obviously undesirable in the menopause. It also exerts other beneficial hormonal effects, one of which, in common with ethinyl estradiol, is a powerful anabolic action so desirable in patients of advanced years.

Upjohn

Endogenous estrogen secretion (mcg./24 hours)
 (calculated from average 24-hour urinary excretion
 of estradiol, estrone, and estriol)





EFFECTIVE
AGAINST ALL
COMMONLY
ENCOUNTERED
EAR PATHOGENS

EXCELLENT
TOPICAL
TOLERANCE

NO
SYSTEMIC
EFFECTS



for

OTITIS EXTERNA
FURUNCULOSIS
OTOMYCOSIS
OTITIS MEDIA

Otamydon[®] and Otamydon[®] WITH Hydrocortisone

EAR DROPS

Manner of Use:

After gently cleansing and drying the ear canal, Otamydon (2 or 3 drops or moistened wick) is applied three or four times daily.

Supplied:

Otamydon—bottles (15 cc.) with dropper.
Otamydon $\bar{c}$ Hydrocortisone—15 cc. combination package to be mixed prior to dispensing.

BACTERICIDAL
FUNGICIDAL
ANALGESIC
HYGROSCOPIC

Otamydon is a clear, odorless, sterile, viscid liquid containing:
Sulfamydon[®] HCl 5%
Benzocaine 5%
Anhydrous glycol q.s. 100

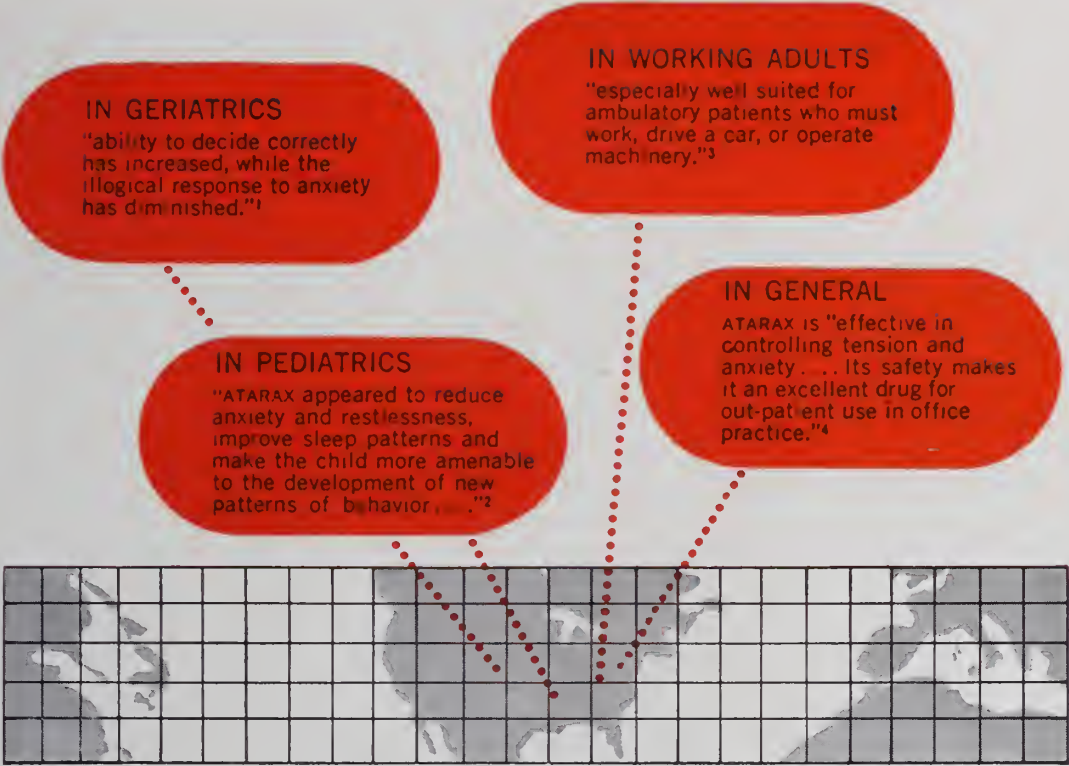
Otamydon with Hydrocortisone:
Same formula with 0.02% hydrocortisone.

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For childhood behavior disorders	10 mg. tablets Syrup	3-6 years, one tablet t.i.d. over 6 years, two tablets t.i.d. 3-6 years, one tsp. t.i.d. over 6 years, two tsp. t.i.d.	• Supplied: Tablets, bottles of 100. Syrup, pint bottles. • Parenteral Solution, 10 cc. multiple-dose vials.
For adult tension and anxiety	25 mg. tablets Syrup	one tablet q.i.d. one tbsp. q.i.d.	• References: 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediatr. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958.
For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.	• 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956.
For adult psychiatric and emotional emergencies	Parenteral Solution	25-50 mg. (1-2 cc.) intramuscularly, 3-4 times daily, at 4-hour intervals. Dosage for children under 12 not established.	• 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

VARIDASE* BUCCAL TABLETS

Streptokinase-Streptodornase Lederle

Controls Inflammation and Swelling...Relieves Pain...
Promotes Healing Through Enhancement of
Fibrinolysis at the Site of Trauma or Infection.

References: 1. Innerfield, I.; Shub, H., and Boyd, L. J.: New England J. Med. 258: 1069 (May 24) 1958. 2. Miller, J. M.; Godfrey, G. C.; Ginsberg, M. J., and Papastrat, C. J.: J. A. M. A. 166:478 (Feb. 1) 1958. 3. Davidson, E; Prigot, A., and Maynard, A. de L.: Harlem Hosp. Bull. 11: 1 (June) 1958 *Reg. U. S. Pat. Off.

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hastens patient's relief...
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Contusions,
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reduces discomfort
and improves
cosmetic result.¹⁻³

Sprains, Fractures

Helps reduce swelling
and pain...speeds
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Administration: VARIDASE Buccal Tablets should be retained in the buccal pouch until dissolved. For maximum absorption patient should delay swallowing saliva.

Dosage: One tablet four times daily for a minimum of three days. When infection is present, VARIDASE Buccal Tablets should be given in conjunction with an antibiotic such as ACHROMYCIN* V Tetracycline and Citric Acid.

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increases antibiotic
penetration.¹

Thrombo-Phlebitis

Relieves thrombotic
process, controls
swelling...gives
dramatic
relief of pain.^{1, 2}

Skin Infections

Furuncles,
carbuncles,
abscesses...checks
swelling and
pain...hastens healing.^{1, 2}

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reduces—erythema, excoriation
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References: 1. Feinberg, A. R., et al.: J. Allergy 29:358 (July) 1958. 2. Eisenberg, B. C., Clinical Medicine 5:897-904 (July) 1958. 3. Robinson, H. M., et al.: J.A.M.A. 161:604-606 (June 16) 1958. 4. Robinson, H. H., et al.: So. Med. J. 50:1282 (Oct.) 1957.

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reliable
and reproducible
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**minimal
adverse reactions**

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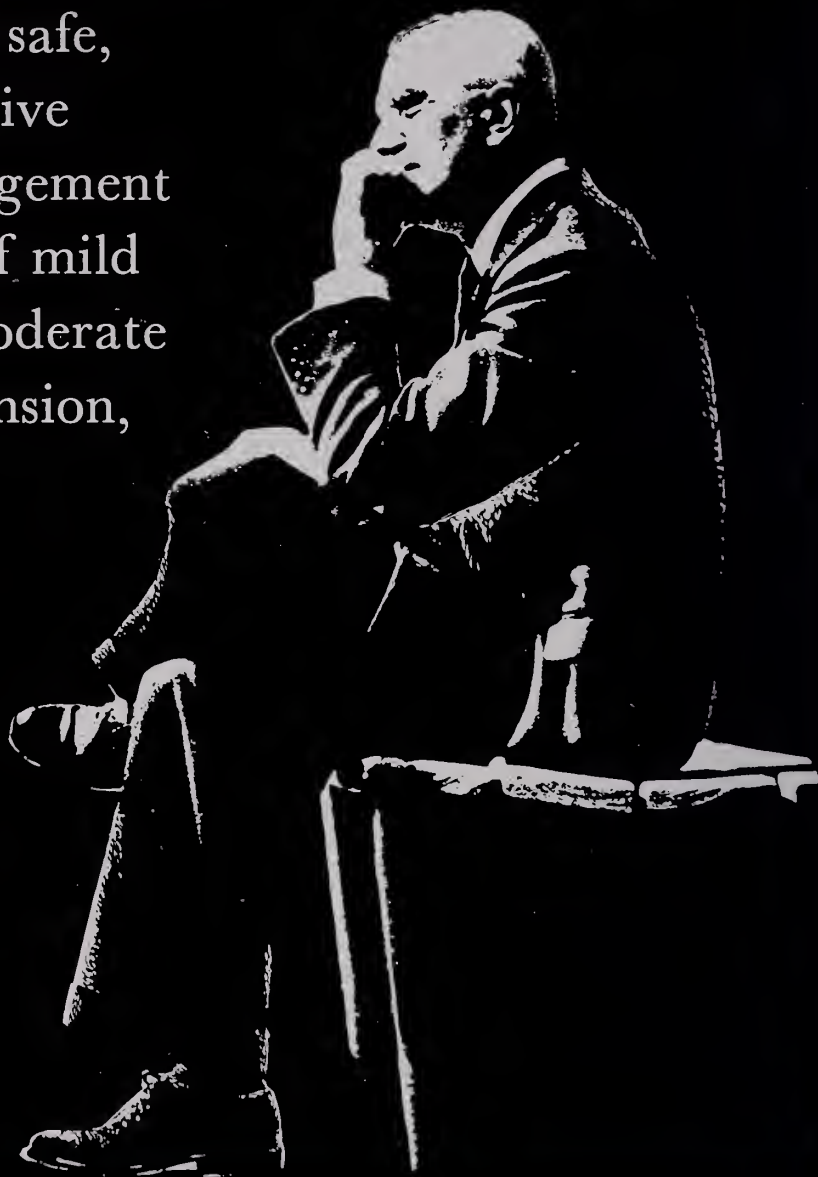


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for safe,
effective
management
of mild
to moderate
hypertension,



R_x Veratrite®

Prescribed with confidence 8,863,769 times Veratrite continues to be the antihypertensive of choice for treating geriatric patients.

Veratrite effectively reduces blood pressure through action on the sympathetic nervous system, without detriment to the cardiac output.

Each VERATRITE tabule contains:

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Sodium nitrite.....	1 gr.
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*Carotid Sinus Reflex



running noses and open stuffed noses orally

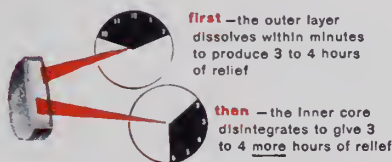
with TRIAMINIC, the oral nasal decongestant

- in nasal and paranasal congestion
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safer and more effective than topical medication

- reaches *all* respiratory membranes systemically
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Relief with Triaminic is prompt and prolonged because of this special timed-release action . . . beneficial effect starts in minutes, lasts for hours.



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One-half of this formula is in the outer layer, the other half is in the core.

Dosage: One tablet in the morning, mid-afternoon and in the evening, if needed.

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Also available: For the occasional patient who requires only half dosage: timed-release TRIAMINIC JUVELETS. Each Juvelet is equivalent to ½ of a Triaminic Tablet.

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SPONTIN IN SERIOUS

*A Special Report from Abbott
to the Medical Profession
on a Year's Clinical Experience
with SPONTIN®
(Ristocetin, Abbott)*

In a Spanish province, a patient lay dying of endocarditis. A short wave radio appeal for SPONTIN was intercepted by a Baltimore physician. The antibiotic was immediately flown to this faraway land, and 10 days later—the patient had recovered.

In Chicago, a moribund patient had been administered 18 combinations of 10 different antibiotics without success. Involved was a hospital-acquired staphylococcal pneumonia—plus complications. SPONTIN was substituted and the patient lived.

A five-week-old infant was critically ill with staphylococcal enteritis. Treatment failures included erythromycin and chloramphenicol. Three days of SPONTIN saved this life. The list is long and impressive and it grows daily.

Recently, a study¹ was made of serious and resistant staphylococcal infections reported to Abbott Laboratories. Many of these cases had serious complicating diseases—many were moribund, or almost so, at the time SPONTIN was started. Yet, out of the 160 staphylococcal cases studied, 93 were reported cured and 38 improved after the administration of SPONTIN.

Out of the total of 251 patients with severe infections caused by gram-positive or mixed organisms, 149 were reported cured and 53 others improved. And the record for pediatric practice was every bit as good.

Additionally, SPONTIN continues to exhibit exceptional bactericidal activity against coccal infections². And, according to another study, SPONTIN provides successful short-term therapy in endocarditis³.

Only last October, at the Antibiotics Symposium in Washington, D. C., a panel of six leading antibiotic experts placed SPONTIN at the top of all other commercially-available antibiotics for treating serious staphylococcal infections. Also, six papers—all dealing with the effectiveness of ristocetin (SPONTIN®) in treating staphylococcal infections—were presented at the Symposium.

One of the most encouraging aspects of the year's literature on SPONTIN is the increasing testimony to its safety. As the months have passed and cases have accumulated by the hundreds, it has become apparent that careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

A recent report⁴ in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a [well tolerated] and potent agent to employ in the treatment of staphylococcal infections." And in another study, after successfully treating 28 patients with a variety of staphylococcal infections, the authors reported⁵, "No serious complications were noted."

Few more dramatic records have been written in such a short space of time. SPONTIN has proved itself to be a good answer, perhaps the best answer at present, to the resistant staphylococcal problem—and of real value in other serious coccal infections. It may well be your answer when you're confronted with a serious infection.

Abbott

STAPHYLOCOCCAL INFECTIONS

Excerpts from Reports Read at the Antibiotics Symposium

Spontin In Treating Severe Respiratory Infections

—“In 13 of 20 patients the results were excellent, with clinical response being evident within one to four days after institution of therapy. In three additional patients, there was some degree of improvement in pneumonic processes superimposed on tuberculosis in two cases and on pulmonary neoplasm in one. In all other cases, serious antecedent pathology undoubtedly influenced the negative or equivocal response to ristocetin therapy.⁶”

Spontin In Treating Staphylococcal Infections—After successfully treating 28 patients, the authors wrote, “Ristocetin or Spontin has proved to be bactericidal and bacteriostatic, particularly for the *Staphylococcus aureus*, which is often resistant to many other antibiotics.⁵”

Spontin In Treating Seven Difficult Cases — “Ristocetin has produced excellent results in eradicating, mitigating or preventing infection in seven selected difficult cases. Six of the seven cases involved *Staphylococcus aureus* which did not respond to chemotherapy with other antibiotics.⁷”

Spontin Blood Levels In Children — “Ristocetin was administered as a single intravenous injection of 12.5 milligrams per kilogram. This resulted in serum levels ranging from 1.3 to 10.6 mcg. after two hours with a gradual fall to a level of 0.7 mcg. per cubic centimeter or less after 12 hours.⁸”

Spontin In Treating Staphylococcal Pneumonia

—“Ristocetin was used in the treatment of 24 patients with staphylococcal pneumonia, 17 of whom had failed to respond to previously administered antibiotics. Complete clearing of pneumonitis was obtained in 16 patients and significant improvement occurred in two others. Two patients died of pneumonia; four others succumbed to other lethal diseases.⁹”

Spontin In Treating Children and Adults — “Ristocetin completely controlled severe staphylococcal infections in 11 adults and six children who received adequate therapy.¹⁰”

1. Totals represent published reports and personal communications to Abbott Laboratories.
2. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
3. Romansky, M. J., and Holmes, R., Successful Short-Term Therapy of Enterococcal and Staphylococcal Endocarditis with Ristocetin—Seven Patients. Preliminary Report, Antibiotics Annual, 1957-58, p. 187.
4. J. A. M. A., 167:1584, July 26, 1958.
5. Bush, L. F., et al., The Use of Ristocetin (Spontin) in Staphylococcal Infections, In Press, Antibiotics Annual, 1958-59.
6. Billow, F. J., et al., Clinical Observations on Ristocetin—A Preliminary Report on its Efficacy and Toxicity in 20 Unselected Severe Respiratory Infections, In Press, Antibiotics Annual, 1958-59.
7. Miller, J. M., et al., Ristocetin in the Treatment of Seven Selected Difficult Cases, In Press, Antibiotics Annual, 1958-59.
8. Asay, L. D., et al., Ristocetin Serum Levels in Children, In Press, Antibiotics Annual, 1958-59.
9. Schumacher, L. R., et al., Experiences with Ristocetin in Staphylococcal Pneumonia: Observations in 23 Cases, In Press, Antibiotics Annual, 1958-59.
10. Terry, R. B., Ristocetin in Children and Adults, In Press, Antibiotics Annual, 1958-59.

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a new order of magnitude in therapeutic effectiveness
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Excellent and good-to-excellent results are reported† with DECADRON in nearly all of 362 patients with various allergic disorders, including a number of cases who had failed to respond to other corticosteroids. No major reactions were observed in these extensive clinical studies even after four months of continuous therapy—DECADRON produced no peptic ulcer, no diabetes, no significant hypertension, no sodium retention, no potassium depletion, no edema, no undesirable psychic reactions, and no unusual or new side effects. Less than five per cent of patients experienced minor reactions, none of which prevented continuing administration of DECADRON.

Moreover, several investigators report that side effects induced by previous corticosteroid therapy such as gastric

intolerance, peripheral edema, headache, vertigo, muscle weakness, ecchymoses, flushing, sweating, moon facies, hypertension, hirsutism, and acne often disappeared during therapy with DECADRON.

†Analysis of clinical reports.

Dosage: One 0.75 mg. tablet of DECADRON will replace one 4 mg. tablet of methylprednisolone or triamcinolone, one 5 mg. tablet of prednisone or prednisolone, one 20 mg. tablet of hydrocortisone, or one 25 mg. tablet of cortisone.

Detailed information on dosage and precautions is available to physicians on request.

Supplied: As 0.75 and 0.5 mg. scored, pentagon-shaped tablets in bottles of 100.

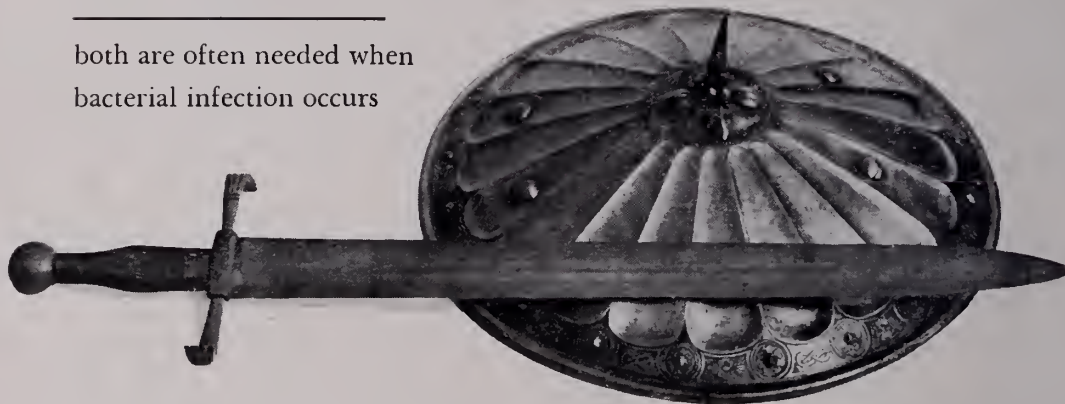
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- prompt, aggressive
antibiotic action
- a reliable defense against
monilial complications

both are often needed when
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Mysteclin-V contains tetracycline phosphate complex

It provides a direct strike at all tetracycline-susceptible organisms (most pathogenic bacteria, certain rickettsias, certain large viruses, and *Endamoeba histolytica*).

It provides the new chemical form of the world's most widely prescribed broad spectrum antibiotic.

It provides unsurpassed initial blood levels — higher and faster than older forms of tetracycline — for the most rapid transport of the antibiotic to the site of infection.

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It provides the antifungal antibiotic, first tested and clinically confirmed by Squibb, with specific action against *Candida (Monilia) albicans*.

It acts to prevent the monilial overgrowth which frequently occurs whenever tetracycline or any other broad spectrum antibiotic is used.

It protects your patient against antibiotic-induced intestinal moniliasis and its complications, including vaginal and anogenital moniliasis, even potentially fatal systemic moniliasis.

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Capsules (250 mg./250,000 u.), bottles of 16 and 100. Half-strength Capsules (125 mg./125,000 u.), bottles of 16 and 100.
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alseroxylon, 2 mg.

*Because

Rauwiloid provides effective Rauwolfia action virtually free from side effects...the smooth therapeutic efficacy of Rauwiloid is associated with significantly less toxicity than reserpine...and with a lower incidence of depression. Tolerance does not develop.

Rauwiloid is initial therapy for every hypertensive patient. ...Dosage adjustment is never a problem...



just two tablets
at bedtime

After full effect
one tablet
suffices

When more potent drugs are needed, prescribe one of the *convenient single-tablet combinations*

Rauwiloid[®] + Veriloid[®]

alseroxylon 1 mg. and alkavervir 3 mg.

OR

Rauwiloid[®] + Hexamethonium

alseroxylon 1 mg. and hexamethonium
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Many patients with severe hypertension can be maintained on Rauwiloid alone after desired blood pressure levels are reached with combination medication.



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Tablets • Elixir • *Spansule** sustained release capsules

In listless and lethargic overweight patients—**DEXEDRINE†**



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VETERANS HOSPITAL ISSUE

DELAWARE STATE MEDICAL JOURNAL

Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31

MARCH, 1959

NUMBER 3

HISTOPLASMOSIS IN DELAWARE

Complete Contents on Page iv

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"...high-potency progestational agents [such as NORLUTIN] frequently have the power, when administered in adequate dosage, to arrest and suspend myometrial contractions incident to spontaneous abortion."* This is the conclusion of a group of investigators who studied patients with threatened (and in some cases habitual) abortion. The study group was compared with a control group which was treated with bed rest and mild sedation only. In this control group, the salvage rate was 15.5 per cent. In the group receiving NORLUTIN, 19 of 45 pregnancies were continued—a salvage rate of 42.2 per cent

PREGNANCY SALVAGE WITH NORLUTIN

	Control Group (Treated with bed rest and mild sedation)	Study Group (Treated with NORLUTIN)
Total number of pregnancies	297	45
Number of pregnancies salvaged	46	19
Percentage of pregnancies salvaged	15.5%	42.2%

Adapted from Hodgkinson *et al.* *

Indications for NORLUTIN: Conditions involving deficiency of progesterone, such as primary and secondary amenorrhea, menstrual irregularity, functional uterine bleeding, endocrine infertility, habitual abortion, threatened abortion, premenstrual tension, and dysmenorrhea.

Packaging: 5-mg. scored tablets, bottles of 30.

Hodgkinson, E. P., Ignotz, E. J., & Bukowski, A. P. *Ann. New York Acad. Sc.* 71:753, 1958.



PARKE, DAVIS & COMPANY
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A high-contrast, stylized graphic of a woman's face. The face is composed of large, flat areas of black, white, and light blue. The eye is a large, dark, almond-shaped shape with a white highlight. The hair is a thick, black, curved shape on the left side of the face. The overall style is graphic and minimalist.

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the failing pregnancy...***

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(norethindrone, Parke-Davis)

***clinically effective
progestational therapy
by mouth***

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1. Editorial, *New England J. Med.* 258:48, 1958.

2. Vinnicombe, J.: *Antibiotic Med & Clin. Ther.* 5:474, 1958.

3. Sheth, U. K., et al.: *Ibid.*, p. 604, 1958.

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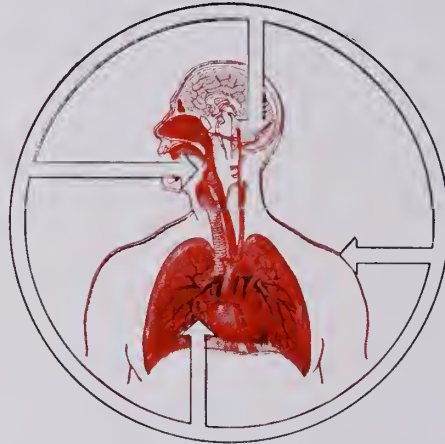
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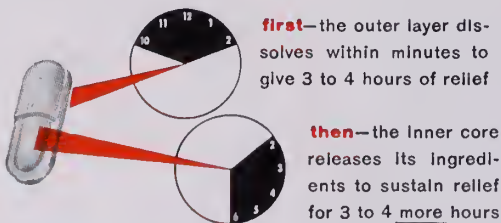
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[†]Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. Fabricant, N. D.: E. E. N. T. Monthly 37:460 (July) 1958. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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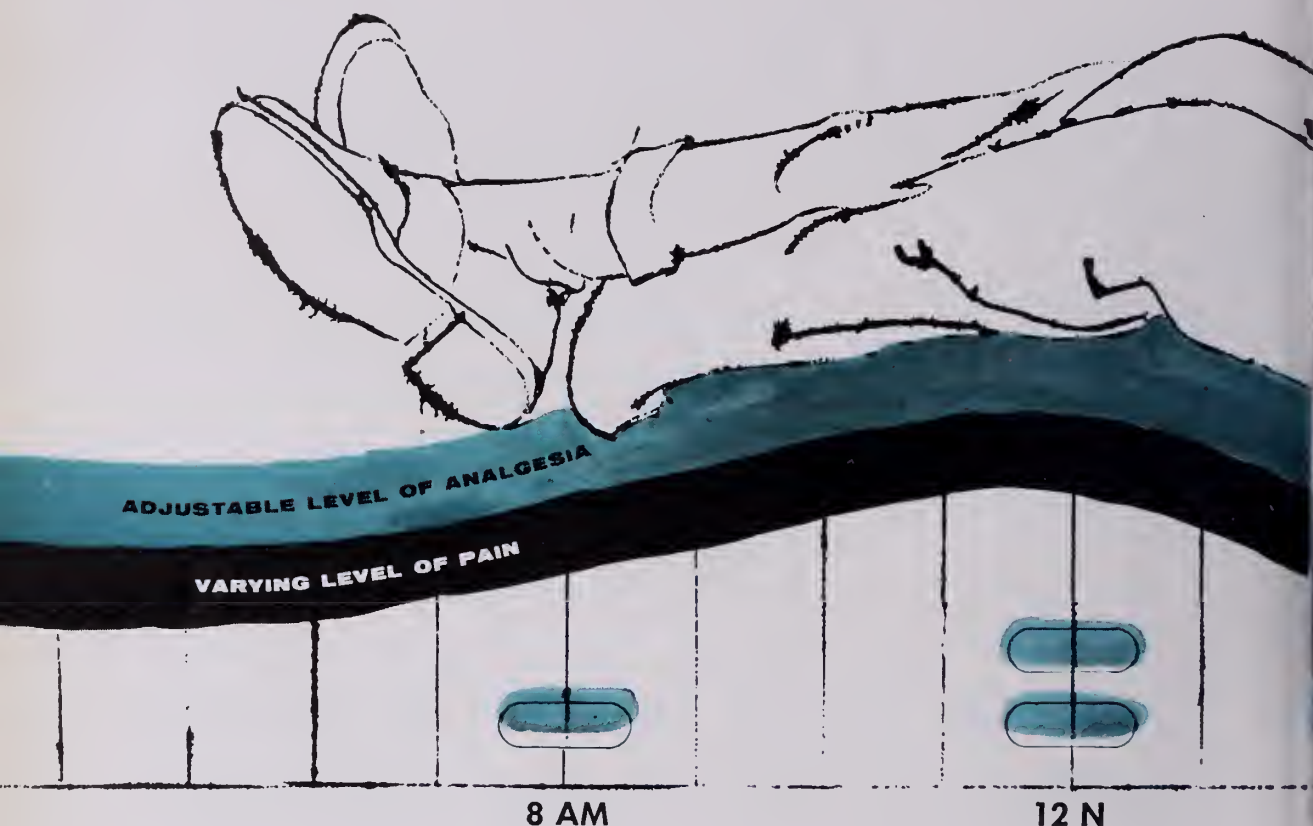
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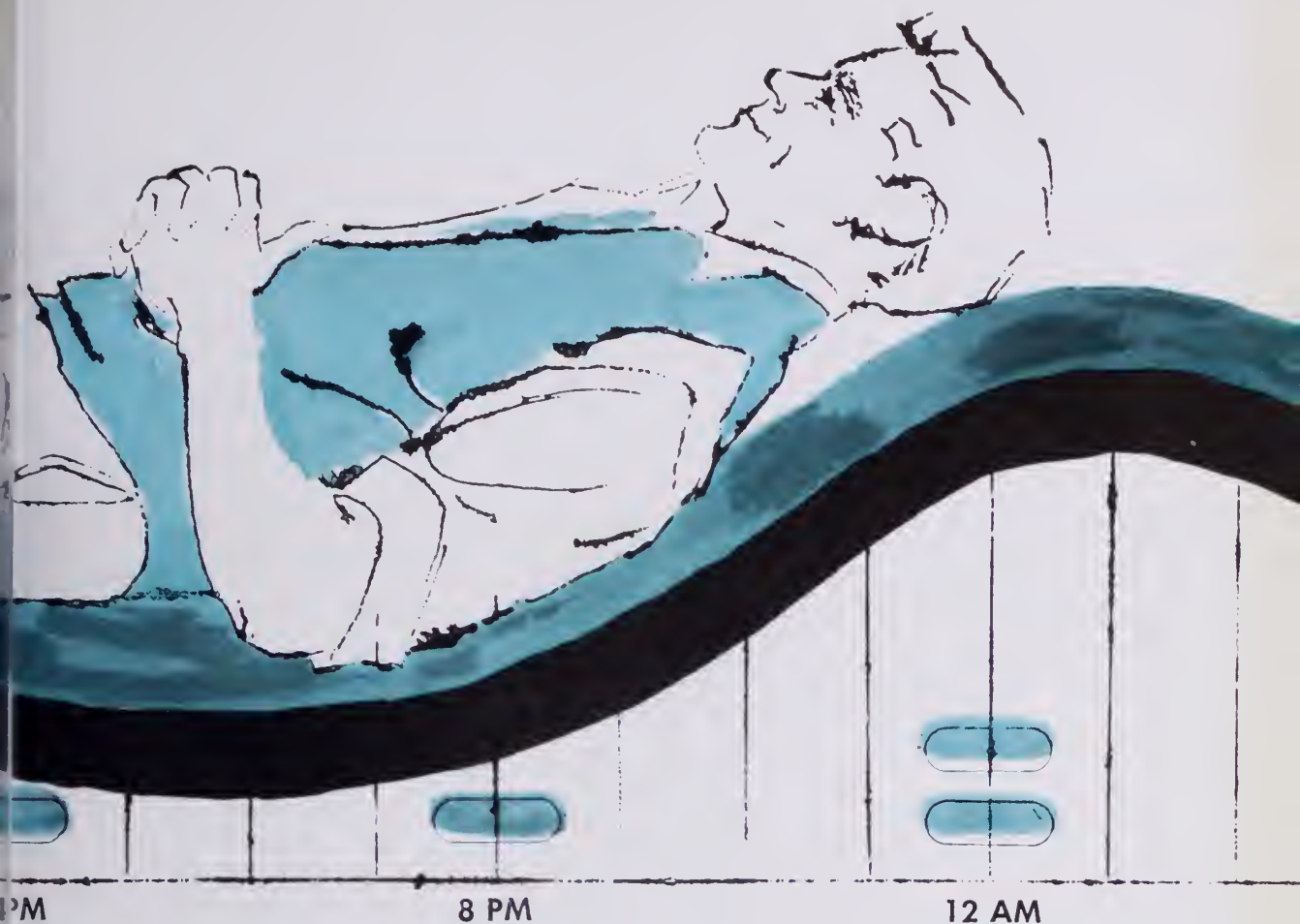
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Niacinamide	25 mg.
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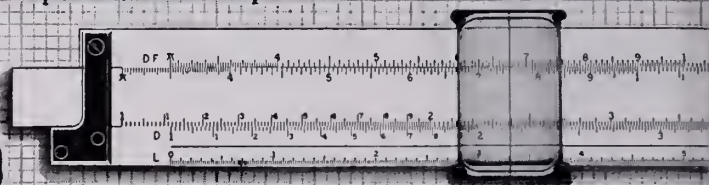
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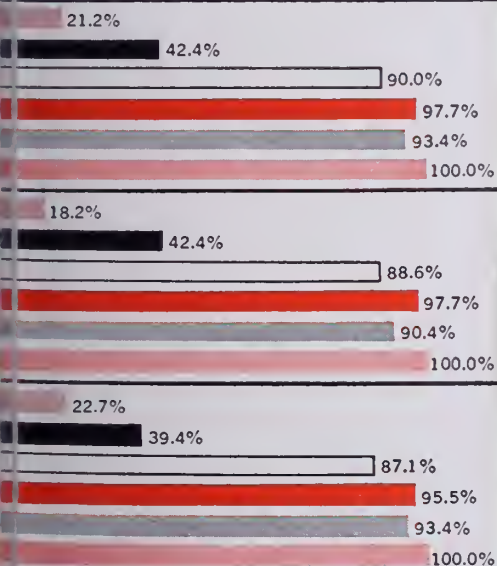
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patient:**

95% effective in published cases¹⁻⁸

Conditions treated	No. of Patients	Cured	Improved	Failed
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	—	6
Otitis media	31	29	2	—
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	—
Abscesses	51	43	8	—
Furunculosis	58	51	6	—
Acne, pustular	43	28	15	—
Pyoderma	19	19	—	—
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	—
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	—
Urethritis with gonorrhea or cystitis	8	8	—	—
Pyelonephritis	4	1	—	—
Salpingitis	5	1	1	—
Pelvic inflammation with endometriosis	1	1	—	—
Miscellaneous	42	30	8	4
(adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, periarthritis)				

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References: 1. Koch, R., and Asay, L. D.: J. Pediatr., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

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1. Landes, R. P. and Peters, M.:
Postgrad. Med. 23:648, June 1958.

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2 to 6 years . . . 3 cc.

adults and children over 6 1 tsp. (5 cc.)

2 or 3 times daily, on the tongue, in fruit juice or water

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groszkoss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 6:463 (Aug.) 1956. 5. Tarikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Coding, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.



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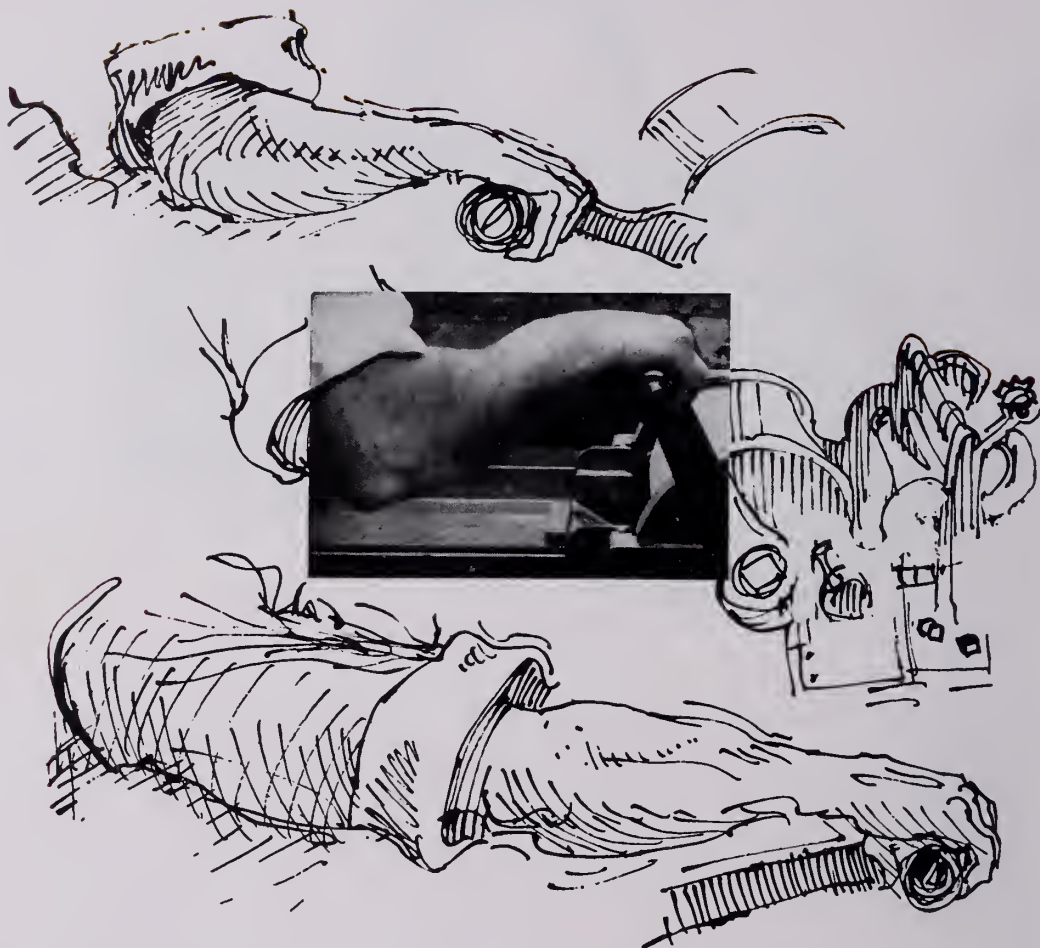
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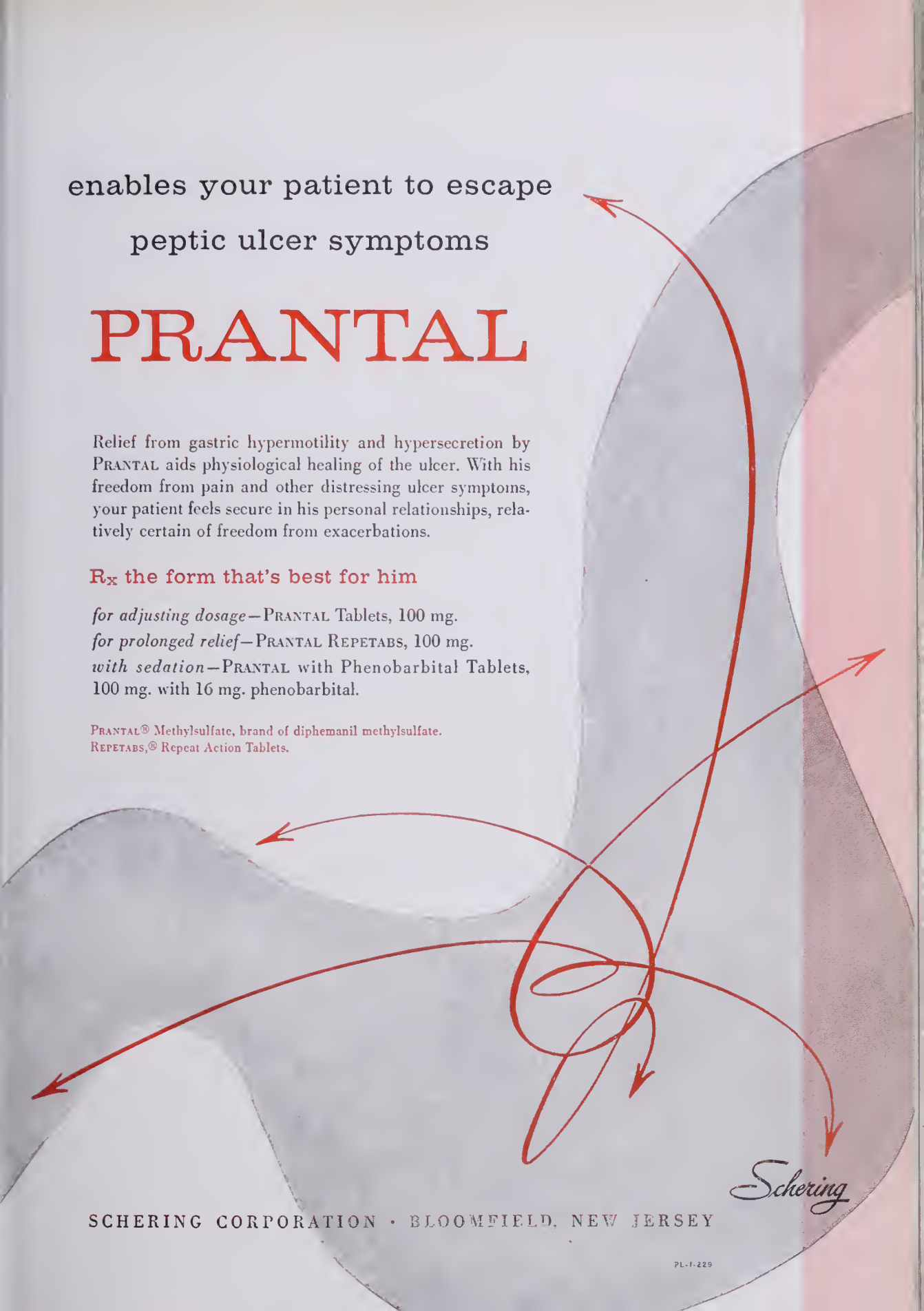
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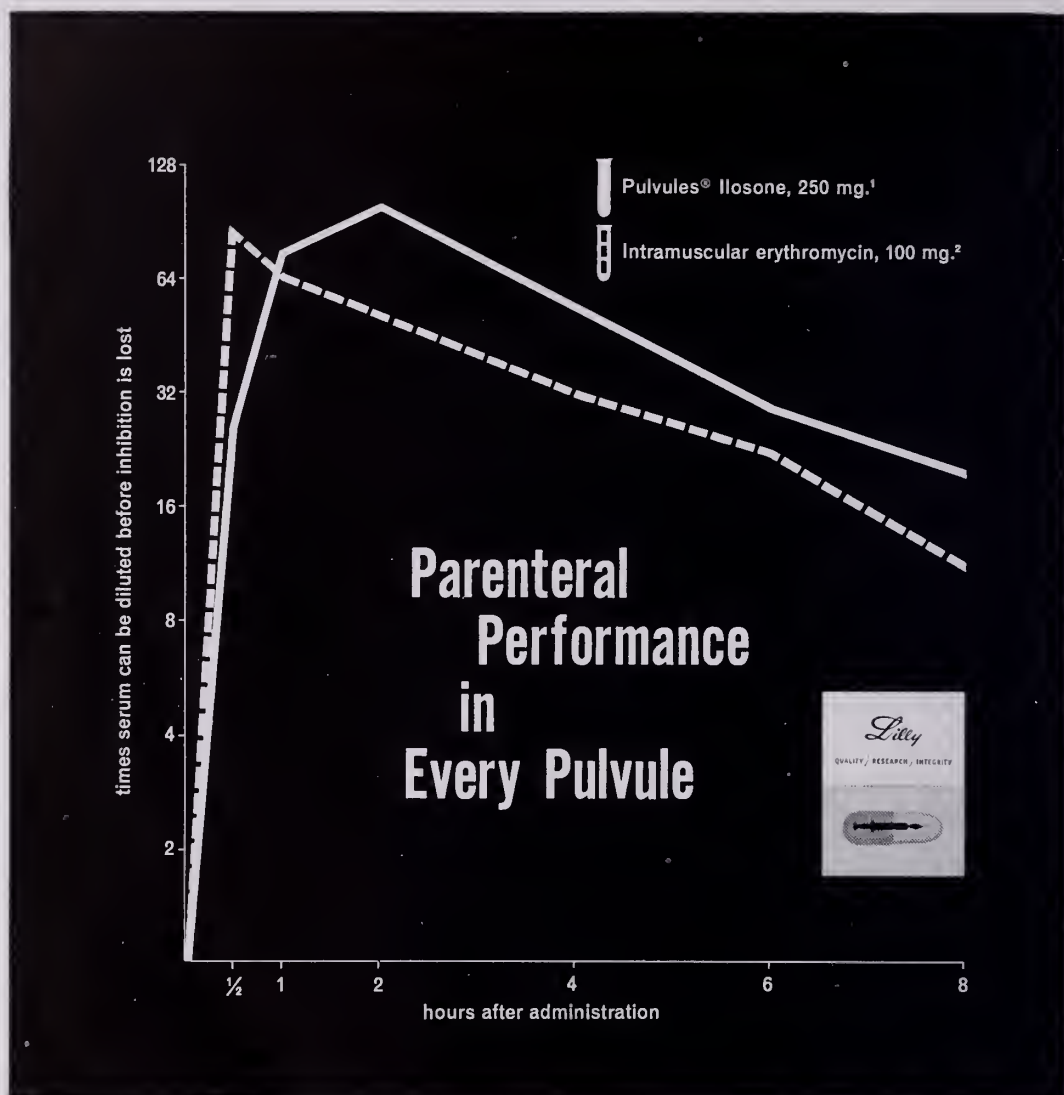
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1. Antibiotic Med. & Clin. Therapy, 5:609, 1958.

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HISTOPLASMOSIS TREATED WITH AMPHOTERICIN B*

A CASE REPORT

C. DAVIS BELCHER, M.D.** and LEONARD P. LANG, M.D.***

Histoplasmosis is a worldwide disease caused by the fungus *Histoplasma capsulatum* which is found in the soil as a saprophyte. Disease in man and animals is initiated by the inhalation of dust containing the spores of this fungus.¹ Transmission of the disease from human to human or from animal to human has not been reported.²

More than one-half of the reported cases have occurred in the United States in the areas bordering the tributaries of the Missouri, Mississippi, and Ohio Rivers. There are other known foci in Texas, Minnesota, Pennsylvania, New York, and Maryland. A prevalence map of histoplasmin sensitivity³ reports a figure of 40 per cent for Delaware. No known epidemics of the disease have been reported from Delaware but several have been described in neighboring Maryland.^{4,5,6,7} In a state wide x-ray survey conducted in Delaware in 1953 many instances of bilateral pulmonary calcification were found in individuals who were asymptomatic at the time, and whose past history was not suggestive of miliary tuberculosis. Unfortunately further follow up is not yet available, but it seems likely that many of these represented infection with *histoplasma capsulatum*. Most of these particular x-rays had been made in the southern part of this state.

The recognized spectrum of histoplasmosis ranges from the fatal cases first reported by Darling in 1906¹⁴ to the asymptomatic

individual with pulmonary calcification and a negative tuberculin test.^{8,9,10} Clinically and pathologically this disease bears a striking resemblance to tuberculosis. The fungus when inhaled produces granulomatous lesions in the lungs and reticulo-endothelial system which cannot be distinguished from tuberculosis except by recovery of the organism by culture or identification by special staining techniques. An adequate classification of the forms of histoplasmosis has been given by Christie.³ This includes (1) progressive disseminated histoplasmosis which has been uniformly fatal; (2) symptomatic benign disease with the production of pulmonary lesions, ulcerations of the oropharynx, adenopathy, and splenomegaly—with eventual recovery; (3) benign or nonprogressive histoplasmosis, frequently only manifested by pulmonary calcification and a positive histoplasmin skin test; and (4) a form without any clinical or roentgenographic manifestations but with skin sensitivity to histoplasmin.

As stated above, a positive diagnosis of histoplasmosis requires the isolation of the organism, or its identification in tissues by special staining techniques. A presumptive diagnosis can be made however, in individuals showing appropriate clinical and radiologic findings, who also have a negative tuberculin skin test, and positive skin and serologic tests for *histoplasma capsulatum*. A positive tuberculin test does not exclude histoplasmosis. The two diseases may coexist. In the presence of positive tuber-

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culin and histoplasmin tests one must search for both organisms. Histoplasmin skin tests have a high degree of specificity and much the same significance as a positive tuberculin test.⁹ In one reported series there were 96 positive reactors to histoplasmin out of 99 patients tested.¹⁵ In recent years serologic tests have aided in establishing a diagnosis.^{11,12,13} In general these are of two types, (1) complement-fixation tests employing as an antigen either a yeast phase of the organism or histoplasmin and, (2) a collodion agglutination test. A titre of 1:16 is considered significant by the Mycology Laboratory of the Walter Reed Army Hospital, where the serologic studies were performed on the case discussed in this report. The production of these antibodies is an acute phase reaction and may disappear in a few weeks or months.³

Treatment has largely been of no avail up to the present time. Many chemotherapeutic agents, antimicrobials and antisera have been used without success. Surgical intervention for localized and cavitary pulmonary lesions has been attended by reasonable success. Recently a new antibiotic agent, Amphotericin B, has been made available and has shown some promise in the treatment of deep mycotic infections.¹⁶

CASE HISTORY

This patient is a 42-year-old white male carpenter who resided at Port Penn, Delaware. He became acutely ill in December 1957 with what appeared to be a severe respiratory infection which failed to improve with treatment. A chest x-ray made at that time showed a large infiltrate in the left upper lung field (Fig. 1). He was treated elsewhere for 17 days with various antibiotics in the belief that he had pneumonia. A bronchoscopic examination at that time revealed no abnormalities. He improved slightly at the time of discharge, but relapsed in two weeks. He was then referred to a consultant who continued treatment with antibiotics but without improvement. A chest x-ray at that time showed marked resolution of the original lesion, and the appearance of a fresh in-



FIGURE 1
X-ray of chest, December 27, 1957.

filtrate in an adjacent area. In March 1958 he had a brief hemoptysis, but again no abnormalities were noted by bronchoscopic examination. It was reported that acid fast and Papanicolau smears were both negative.

He was first seen by one of us (L.P.L.) in April, 1958, because of his failure to secure a diagnosis. Since it was impossible to rule out neoplasm, and two bronchoscopic examinations had been negative, he was admitted to the surgical service of one of us (C.D.B.) for evaluation for exploratory thoracotomy.

On admission he complained of a severe chronic cough productive of variable amounts of sputum, poor appetite with a weight loss of twenty-five pounds since November 1957, drenching night sweats and considerable pain in the left hemithorax. He had smoked one pack of cigarettes daily for many years.

Examination revealed a tense, anxious, chronically ill and malnourished 42-year-old white male. There was slight limitation of expansion over the left upper thorax, without alteration of tactile fremitus or breath sounds, and no rales were heard. The liver edge was just palpable and there were enlarged lymph nodes in both axillae. His temperature and pulse were normal on

admission but subsequently became elevated with spikes to 101° and 102° F. A chest x-ray at this time (Fig. 2) revealed cavitation in the previously involved area.



FIGURE 2
X-ray of chest, April 30, 1958.

Numerous examinations, including biopsy of axillary and scalene lymph nodes and liver, blood cultures, repeated bronchoscopic examinations and bronchograms, failed to reveal an etiological agent. Repeated direct smears and cultures for acid fast bacilli were negative. Papanicolaou smears for tumor cells were again negative. Blood count showed a WBC of 8,000 with a normal differential count, a hemoglobin of 10 grams with a 33 per cent hematocrit. The total proteins were 7.0 grams per 100 cc. with 1.8 gms. of albumin and 5.2 grams of globulin. Plasma electrophoresis failed to show any abnormal proteins. A corrected sedimentation rate was 30 mm. in one hour.

Although the patient was admitted to the hospital with a presumptive diagnosis of pulmonary neoplasm, the shifting nature of the pulmonary infiltrate, the continued temperature elevation in spite of antibiotics, the hyperglobulinemia and the appearance of cavitation all pointed to a disease with probable involvement of the reticuloendothelial system as well as the lungs. Pulmonary fungus infection, unresolved pneu-

monia, tuberculosis, disseminated lupus erythematosus and multiple myeloma were all suggested at our Chest Conference.

Skin testing for tuberculosis and fungus diseases was carried out with a resulting weakly positive PPD #2 and a 3 plus reaction to histoplasmin. Accordingly blood was sent to the Walter Reed Army Hospital for complement-fixation testing. Tests for blastomycosis and coccidioidomycosis were negative. A titre of 1:16 was secured using histoplasmin as an antigen with negative results when a yeast phase antigen was used. A collodion agglutination test was likewise negative. A sternal bone marrow was examined and at one time intracellular histoplasma capsulatum was thought to be seen, but this could not be confirmed. Fungi were grown from sputa and bronchoscopic washings which were identified as non-pathogenic at Walter Reed Army Hospital.

During the time occupied in performing these various studies the patient's condition continued to deteriorate. He lost weight, developed clubbing of his fingers and continued to have daily temperature elevations. Since a presumptive diagnosis of histoplasmosis could now be made it was decided to treat the patient with Amphotericin B (marketed as Fungizone—Squibb), a newly developed antibiotic which seemed to have a good antifungal effect. The possibility of thoracotomy was still considered to remove the cavitory lesion if his condition could be improved. Penicillin and streptomycin were also employed for the same reason. A chest x-ray at the beginning of treatment is shown in Fig. 3.

Since Amphotericin B is poorly absorbed from the intestinal tract and results are erratic, it was elected to treat this patient by the intravenous route. The recommended dosage is 1.0 mgm. per kg. of body weight, but this dosage is frequently not tolerated and reactions are common. The drug should be freshly prepared and given slowly in a dilute solution. This patient weighed 62 kg. at the start of treatment and an initial dose of 0.25 mgm. per kg. was employed with a total dosage of 16



FIGURE 3
X-ray of chest, June 27, 1958.

mgm. diluted in 1,000 cc. of 5% dextrose in water. There was no reaction to this first dose, but an increase to 34 mgm. on the second day was accompanied by tingling of the face and when the dosage reached 60 mgm. on the fourth day, a chill followed. Reactions could be controlled with acetylsalicylic acid and Tripelemamine to a certain degree, but the dosage had to be decreased and finally was stabilized at 30 mgm. per day. His response to treatment was dramatic with amelioration of all of the clinical symptoms. Streptomycin and penicillin were discontinued before any change occurred in the chest x-ray. Treatment was carried out for three months at the dosage level described above with continual clinical improvement, including restoration of appetite, marked gain in weight, disappearance of the clubbed fingers and clearing of the pulmonary infiltrates. At the end of three months urticaria developed and persisted in spite of treatment. It became necessary to omit some treatments and finally at the end of four months they were discontinued entirely. In Fig. 4 the x-ray appearance ten weeks after treatment was discontinued is shown. Shortly before discharge the histoplasmin skin test was still three plus but the histoplasmin complement-fixation test had reverted to



FIGURE 4
X-ray of chest, December 3, 1958.

negative. His total protein was now 6.6 gms. per 100 cc. with an albumin of 4.1 and a globulin of 2.5.

At the present time, three months following conclusion of treatment, he has returned to work as a carpenter and is asymptomatic.

SUMMARY

A case of histoplasmosis is reported with excellent short term results from treatment with Amphotericin B. Diagnosis was based on a compatible clinical syndrome of a disease involving the lung and reticuloendothelial system, with appropriately positive skin and complement-fixation tests for histoplasmosis.

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ABDOMINAL PAIN: MEDICAL OR SURGICAL?*

PRESIDENT BAKER: Gentlemen, it pleases me this morning to introduce to you Dr. Otto Pollak, pathologist for the Kent and Sussex Hospitals, Dover, Milford, and Lewes; Dr. James R. McNinch, one of our surgeons from Dover; Dr. Alfred Bacon, internist from Wilmington; and Dr. John Forest, pediatrician from Dover. They will talk this morning about "Abdominal Pain: Medical or Surgical?" Dr. Pollak will act as Moderator for the panel, and I will now turn the session over to him.

MODERATOR POLLAK: Thank you, Dr. Baker.

Ladies and gentlemen, as you see, among the panelists we have a medical man, a surgeon, and a pediatrician. I regret that we do not have an obstetrician and other specialists. The subject is broad and we could talk about abdominal pain endlessly.

As a pathologist, one of the biggest puzzles is the normal appendix case which comes in with the remark "mesenteric adenitis" or sometimes "ruptured ovarian follicle." I would like to start the panel with a question to our pediatrician about this mesenteric adenitis because it is usually a pediatric problem.

Of course, to talk about pain is a great over-simplification. It covers many different types of pain, and I hope that we will learn a little more about it.

We do not want to give lectures, but we want to have a discussion. I also want audience participation; I want you to ask questions and provide some of the answers, too, because certainly we do not know all the answers.

Now, John, what do you think about mesenteric adenitis?

DR. FOREST: I think mesenteric adenitis is a nebulous diagnosis. I am not sure how

anyone ever makes it. Certainly, appendicitis mimics it or they mimic one another to such a degree that no one knows the exact etiology until the abdomen is opened and the appendix is revealed as perfectly normal. Of course, the clue should be a respiratory or infectious process prior to the onset of abdominal pain. The history is identical with that of an appendix and may be even a more clear-cut picture than many appendices which I am sure Dr. McNinch has removed and found to be red and acute.

The physical findings can be exactly the same as an acute abdomen. The blood count may or may not be elevated. Frankly, I do not know how one could make the diagnosis. I would like to hear from Dr. McNinch.

MODERATOR POLLAK: Dr. McNinch, did you ever make the diagnosis before operation?

DR. MCNINCH: Once in a while we are suspicious, but if I make a diagnosis of a case of mesenteric adenitis it ceases to be a surgical problem. I believe it is safer to remove the appendix in the questionable case than to let it progress to unquestionable appendicitis. One must remember, too, that if a child, adult or anyone has a sore throat he is allowed to get more than one disease at a time, and a sore throat with a tender abdomen can mean that he has both conditions.

But I have never made a diagnosis of mesenteric adenitis and proceeded to operate. If I do not feel it is appendicitis, I do not operate. I was taught that if you make a diagnosis of appendicitis you made a McBurney incision, and if you weren't sure of your diagnosis you didn't operate for appendicitis, and I still feel that way. If the surgeon feels that it is adenitis, he should wait and let it become more clear. Whereas, if there is any question, he should go ahead and remove the appendix.

* Panel discussion at 169th Annual Session of the Medical Society of Delaware, Du Pont Country Club, Wilmington, Delaware; Thursday, October 2, 1958.

MODERATOR POLLAK: I would like to hear from the medical man, Dr. Bacon. Do you think a history is of any help in differentiation in this case?

DR. BACON: I think in the adult as opposed to the pediatric patient we run into the non-medical and non-surgical diseases; the functional diseases of the gastrointestinal tract and social or economic diseases, where the pediatrician has adenitis to contend with. Those who see the adult usually have colitis to consider as part of the differentiation. Many such patients are opened for appendicitis. In general, patients with an established diagnosis of colitis of one form or another have about a 5 per cent higher incidence of appendectomy than the population in general. So we know that some of these patients are mistakenly considered to have appendicitis when what they have is a manifestation of gastrointestinal disease.

History is a big order. One should have a complete history before he establishes any plan, whether it be medical or surgical. He must have a working diagnosis.

If the patient is originally seen by a general practitioner, an internist or a pediatrician, the surgeon generally sees the patient when a fairly accurate working diagnosis is established. Many diseases cause abdominal pain, and not all are misinterpreted as appendicitis. But they are often misinterpreted as other surgical conditions of the abdomen. Exotic diseases such as lupus cause abdominal pain. So do diabetes and acidosis. Because these patients have abdominal pain they may be considered to have a surgical abdomen. Myocardial infarction causes abdominal pain, and many times the surgeon wants to delay the procedure to have a cardiogram.

Pneumonia causes lower abdominal pain. The surgeon often makes that diagnosis because the history of abdominal pain often presents a complaint of the patient. I do not mean to say that once these medical diseases are established that surgical diseases can not occur also. A patient with lupus might have pancreatitis or the diabetes might be caused by a ruptured ap-

pendix. A detailed evaluation of the history is mandatory.

A patient who has had a chronic recurring problem may have a change in the type of pain by a new disease superimposed on the old one. Where is the pain? Pain is a non-specific thing. It is due to many different causes. The abdomen itself cannot complain except in terms of pain. It may be an epigastric pain or lower abdominal pain. It may stay in one place; it may migrate. It may be colicky, extremely severe, excruciating pain. It may disappear in a minute or two later.

Without a reliable history it is difficult to make a diagnosis. A patient who is known to have a chronic malfunction of the gastrointestinal tract can have a new disease superimposed or his old disease may change. One who has colitis may suddenly develop enteritis or nervous stomach. A person who has not had the mucous passage in the stool for years may have upper gastrointestinal disturbance because of the same functional abnormality. Or he may perforate an ulcer in the middle of the night.

History is important. It frequently is the deciding factor in consulting the surgeon. The surgeon is the one who has the ultimate decision to make, and he sees the problems that are probably going to be surgical.

MODERATOR POLLAK: Dr. McNinch, will you talk about the physical and then we will open discussion to the audience.

DR. MCNINCH: I think that we are apt to get off on a tangent if we talk about abdominal pain as acute or chronic. The acute abdomen is of little difficulty; the catastrophic things, vascular accidents, thrombosis, etc. present no real problem. The patient is rigid. He remains rigid. He has peritoneal irritation to cough and light percussion. I think those are the two most important signs. But the problem here is medical surgery. That means the pain is chronic, the physical examination is of considerable importance.

We must consider the whole patient, as Dr. Bacon mentioned; his history. But

when it comes to the pain, is it intermittent? Does he have peritoneal irritation to percussion, cough? Does he have muscle spasm? That is a nebulous thing since it can be muscle guarding or rigid abdomen. The chronic patient must be carefully examined, including the hernial orifices and rectal examination. I believe a part of any physical examination is to have a sigmoidoscopic examination. I also feel if a patient has rectal signs and symptoms, and a barium enema is indicated he should have a sigmoidoscopy prior to it, because the blind area is about the first ten centimeters that the radiologist cannot see, but it can be seen very well through the sigmoidoscope. As I see it, the difference between acute and chronic pain is tremendous. The chronic pain deserves long, continued work-up, whereas the acute presents no problem. A surgical abdomen is easily recognized and the diagnosis is reached—at least as a surgical abdomen, if not specifically named.

The only problem is with patients who have intermittent pain. I have seen a little girl whose parents were separated. Every day on the way to school she would suffer from an abdominal pain. When she came to see me everything was normal. I found she was ashamed to go to school and face her friends because she no longer had a family. Those are the difficult problems, but they can be worked out.

A part of the physical examination is the laboratory and examination of stool for ovum parasites. Examination through x-ray can sometimes elicit early malignancies by barium enema and upper gastrointestinal series. I think it is necessary to be specific. Is it acute or chronic pain?

MODERATOR POLLAK: I think we have exhausted the history and physical pretty well. Before we start with questions from the audience, what about the pediatrician? Do you have any special problem you would point out since we have gone into all the details?

DR. FOREST: I will go along with Dr. McNinch. The acute problems are seen and treated immediately. The ones that really give me the hard time are the children who

come in with chronic or intermittent type of abdominal pains. Generally, they happen to be little girls anywhere from 8 to 12 or 14 years old. They are very difficult to determine at times.

MODERATOR POLLAK: Let me interrupt here. Are those girls menstruating when they have difficulties or are they in the age before menstruation?

DR. FOREST: Premenarche for the most part. We generally find that they are tight and tense young ladies, are doing well in school. In fact, they usually are doing especially well in school. They have emotional tension and emotional problems. I personally am never sure whether some of these tensions are due to the stimulation of the ovaries or to our social environment where the girls are trying to find a niche in a group. They generally disclose nothing on physical examination or laboratory studies. Dr. Conway found in a large clinic group that some 10 per cent of the children in a clinic environment had presented the complaint of abdominal pain.

Just for figures on how generally nebulous this is, Woodhardy and White several years ago did a complete study on children with chronic abdominal pain and examined them with everything from electroencephalograms, CBC's, stools, gastrointestinal series and IVP's. Out of this group they found 42 per cent who had definite problems that could be demonstrated. Out of the 42 per cent only 20 were referable to the abdominal pain. So, to me, this is the biggest problem I encounter.

MODERATOR POLLAK: We have heard on this panel twice the phrase, "emotional disturbances," mentioned. Maybe we should have a psychiatrist on the panel.

I would like to open this to the audience for questions, and I would like to suggest that anyone who speaks please give his name. Are there any questions?

DR. CHAVIN: I would like to start the discussion either by pleading guilty or coming to my defense. All these years I have been hearing about the importance of a good history. Dr. Bacon stressed it again this morning. But I find that the history

is not always reliable. When I explain a certain type of pain to the patient I don't know whether he will understand it or not, and when he mentions a certain symptom I am not sure I understand it.

As far as the physical examination is concerned, it, too, is not always reliable.

So I want either to defend myself that I have been right in not being right all the time or feel guilty that I wasn't right.

MODERATOR POLLAK: Dr. Bacon.

DR. BACON: There is no question that some people will not give a reliable history. A patient who has had pain a long time will take more time to give you a good history, and you must have time to obtain this history. It depends on the type of individual with whom you are dealing. Several factors are common. A patient who has had pain for a long time, and is not satisfied with one doctor will go to see another. He has been to Doctor X, Doctor Y, and Doctor Z, and if you should encounter Doctor X, Doctor Y, or Doctor Z and discuss the problem with them, they will have a completely different picture of the patient from you. Ordinarily, you all come to the same conclusion when a patient's history varies this markedly. The patient obviously is not speaking of any disease entity at all.

In order for the history to have any value it must be reliable. It must be taken leisurely, and it cannot be done in five minutes if someone has had pain for ten years. The physician may not find any information from the history since the person may misinterpret his symptoms. But the fact that he misinterprets them should not modify the physician's interpretation of what he says, so that he can evaluate it in a better perspective.

History alone will not lead to a diagnosis. Many physicians can make a diagnosis over the telephone in abdominal pain. I don't imply that that is the way it should be done, but I think that few original impressions are changed after a physical examination plus detailed laboratory studies. The history taken over the telephone is evidence that a history itself can be reliable. If a

patient is sick enough, acutely ill particularly, the history is usually reliable. Often it is our own responsibility to take a better history than we do. We have not asked the man whether he has been out scraping underneath the cellar of his house where he was bitten by a black widow spider or whether he has been to South America where he might have become infested with worms. If the physician spends enough time he can get good information to lead him in the right direction, whether it is organic or functional disease.

MODERATOR POLLAK: I would like to add that a good history has its limitations, too. In Rotterdam at the Hospital for Tropical Diseases, we had a colored man from West French Africa who spoke nothing but some native dialect. No one could communicate with him, and he had a strangulated hernia. Of course, a physical happened to be much more than a history in this case.

Are there any other questions?

DR. ALBERT: I would like to hear a discussion of the diagnosis of chronic pancreatitis.

MODERATOR POLLAK: I predicted this question when we talked about it last week. Will you begin, Dr. Bacon?

DR. BACON: Yes. There is no question or combination of things that will lead to a diagnosis of chronic pancreatitis unless you see stones on the flat plate of the abdomen that are in the pancreas. Recurring pancreatitis usually is associated with alcohol. It is more difficult to make this diagnosis in a person who is not drinking because rarely do we think of it at that time. Of course, it is considered in any patient who has upper abdominal pain without any other cause. Patients for whom we use the term "chronic" have obviously had it for a while; they will have x-ray studies, which will reveal nothing; gall bladder studies, which will usually reveal nothing, although sometimes an associated cholelithiasis is shown. The laboratory is not much help.

We speak of elevations of the amylase, or in this case the serum amylase. At best it is not much help, and I think the pathol-

ogist would be the first to admit it. I think this is a situation that is most likely diagnosed by the physician who rules out everything else and is satisfied to diagnose the recurring pain as "probably due to chronic recurrent pancreatitis."

Secondly, many of these diagnoses are established because they are forced to be, and they are established by exploratory laparotomy in these patients.

MODERATOR POLLAK: How do you feel about exploratory laparotomy generally?

Dr. McNinch: In the question of pancreatitis I think that is the way the diagnosis of chronic pancreatitis is made. I think the important thing is the location of the pain. It usually occurs across the lower dorsal or upper lumbar area of the back. I disagree with Dr. Bacon in that I think the most common miss we make with pancreatitis, the acute phase, we call penetrating ulcer, or posterior penetrating ulcer. The abdomen does not show enough spasm or accompanying symptoms to warrant exploration. When the patient recovers from the acute attack we give him drugs to slow down the gastro-intestinal tract and parenteral fluids. Eventually he comes to x-ray thinking he has a healed ulcer.

But the diagnosis made at surgery was a mis-diagnosis. We operate for a perforated ulcer and it proves to be pancreatitis. Or, we do duodenal drainage and find bacteria, and maybe some crystals we diagnose it as a low-grade coleocystitis, and operate for that as a last resort and find pancreatitis.

Moderator Pollak: I think duodenal drainage is one of those laboratory tests which is greatly neglected.

How does the pediatrician feel about the disease of the pancreas? I think it is a special pediatric problem, not so much the chronic recurring pancreatitis but other forms of pancreatitis disease.

Dr. Forest: We certainly see fibrocystic diseases. The fibrocystic disease is generally not a very difficult diagnosis to make, and as for duodenal drainage, it is still one of the best laboratory tests. I understand

that physicians are finding more fibrocystic disease in adults now primarily through the increased frequency of duodenal drainages. It is a diagnosis that if you suspect, it can easily be made. And if you are not aware of it, it makes a horrible situation for the child concerned. Duodenal drainage and the sweat test are probably the best means of diagnosis. History, again, is what gives you the clue. All you are doing from that time forward is proving the diagnosis.

Moderator Pollak: Do you believe, Dr. Bacon, that pancreatitis is on the increase altogether, and if so, is it perhaps due to the increase in consumption of alcohol? And how do you feel about the exploratory laparotomy in the case of acute pancreatitis?

Dr. Bacon: I will answer the second part first. I think in acute pancreatitis the only reason to explore the patient is, 90 per cent of the time, erroneous diagnosis, as Dr. McNinch pointed out, where one suspects a perforated ulcer. There are unquestionably some cases of acute pancreatitis that have to be explored, and sometimes there is enough necrosis and the patient has been sick long enough to warrant a drain being put in. I do not think that happens often, but I think very rarely is a patient opened with a pre-operative diagnosis of acute pancreatitis. What do you think of that?

Dr. McNinch: I agree with that. I think in conjunction with biliary disease, occasionally the reflux pancreatitis from a stone in the ampulla of Vater where you have one exit for the duct of Wirsung and the common duct, operations have helped because you remove the stone and establish proper drainage into the duodenum. There again, it usually is a mistaken diagnosis, one of acute coleocystitis, that led to the operation.

Dr. Bacon: To go back to the first part of the question, I don't think pancreatitis, per se, is increasing in frequency. The diagnosis may be made more frequently now, but I do not think there is any evidence that per capita consumption of alcohol is increasing. The total consumption of alcohol is because there are more people.

Moderator Pollak: I would like to ask one question on the problem of the pancreas and direct it to the surgeon. What about the problem of post-operative pancreatitis? It does not have much to do with pain, but I think in order to complete the picture we should comment on it, the frequency.

Dr. McNinch: Fortunately, it is infrequent. It is a very dreaded complication, and I think there is nothing further to be done but give supportive treatment. I believe it is a diagnosis seldom made. A more frequent diagnosis, of course, is post-operative peritonitis, but that is easily visible for us, and we treat it with antibiotics and the patient recovers, occasionally with x-ray therapy. We never x-ray a pancreas, and I do not see post-operative pancreatitis. If I see it I do not recognize it; I will put it that way.

Moderator Pollak: I can only comment on it in this way: In the literature you find more and more mention of post-operative pancreatitis after operations in the general portal region, of course, reflux or just edema.

Dr. McNinch: The edema, yes, but that passes in the immediate post-operative phase unless the patient has some catastrophic occurrence, such as a coronary, and then it is made in the laboratory by autopsy. But I don't think it is frequently made where the patient recovers.

Moderator Pollak: Since you mentioned peritonitis, I personally believe there is a great similarity and coincidence of pancreatic and peritoneal disease. I think probably pancreatitis is frequent in terminal malignancy.

Dr. McNinch: I think that is true.

Moderator Pollak: Now let us go back to the audience and find out whether someone has a question.

Dr. Davolos: I would like to say that you left out one field, gynecological conditions. And I would like to make a plea for mid-line incisions occasionally in doubtful cases. I think some of the conditions are obvious. I think one of the conditions

that is often overlooked in older patients is carcinoma of the ovary which gives an acute abdomen in many cases.

Moderator Pollak: We are aware of the fact that we are missing a gynecologist on the panel. Surely, there are many other gynecological problems, as the ruptured ectopic, the Mittelschmerz, and pain with menstruation, which can be severe. Endometriosis is a problem and, of course, malignancy. I would like to go back to other malignancies and ask Dr. McNinch what the relationship between neoplasm and abdominal pain is in his opinion.

Dr. McNinch: If we limit the beginning to the colon, it is well known by everyone that malignancies of the left colon are usually annular and frequently the first sign is obstruction due to edema. Malignancies of the right colon are usually sessile, not obstructing, and the principal signs are bleeding, considerable mucus in the stool, and frequently (unfortunately) palpation of a mass. The diagnosis is either acute or chronic, and if it is acute it is easily made in the patient's obstruction. The diagnoses of malignancies of the small intestine are seldom made prior to operation. This is the reason for exploratory laparotomy, because once they become definite we can interpret it as a malignancy, but it frequently is too late.

But in the beginning, the constant gnawing pain without spasm means lymphoma or a carcinoma of the small bowel. We had one recently, causing partial obstruction. The man had been x-rayed with no sign, and exploration solved his problem, at least for the time being.

Dr. Bacon: I think we could go from there to the pancreas again. Carcinoma of the bed of the pancreas is a difficult diagnosis—impossible to make without exploration. We can suspect it, but have no laboratory help in establishing the diagnosis. The patient has pain for a varying period of time depending on how long the disease has been present or what damage it has done. Studies will be normal, and the patient will not respond to therapy. The diagnosis is made only by exploratory laparotomy.

Moderator Pollak: There is one limitation. You say there is no diagnostic tool, but lately I have heard a little about Papanicolau smears and search for cells in duodenal drainage. Possibly that examination should go further and not concern itself only with bacteriology but go into cytology as well.

I would like to ask one question before calling for questions from the audience again. Do you ever come across situations where pain in neoplasm is an early sign? Or is it usually in complicated cases?

Dr. McNinch: I think occasionally it is early. It occurs most frequently in the right colon as pain that is not diagnosed as an ulcer by history or x-ray. The gall bladder function is normal, but the patient still complains of pain in the right upper quadrant. Finally, a barium enema is performed and a defect is found in the right colon. In the last two or three years I have seen a number of them. And I differ with the literature in that I feel that lesions of the right colon are relatively curable.

Dr. Bacon: But do you think the pain in this situation is because of a disturbance of function of the colon?

Dr. McNinch: Undoubtedly the protein losses through the mucosa, blood and so forth cause edema. The very presence of a mass which is foreign to the tissue is a functional disturbance causing pain.

Dr. Bacon: This again brings out the need for a good working diagnosis as an end result of a good work-up. It can be done.

Moderator Pollak: Each of us on the panel and probably each of you in the audience could list many conditions which may at times or always cause abdominal pain of one type or another. I would like to go back to the pediatrician and ask about some of these pains in his field.

Dr. Forest: I think that there are several areas of abdominal pain which have not been mentioned to a great degree, the blood dyscrasias, sickle cell anemia especially can cause the most excruciating type of abdominal pain. Any of the intoxications and

poisonings should be considered in a discussion of abdominal pain. I think a urologist should be included on a panel of this type. The genitourinary tract has a nebulous type of abdominal pain. Abberant vessels, peritonitis, and hydro-nephrosis should always be considered in any study for abdominal pain. The congenital anomalies should be mentioned.

Dr. McNinch: There are two things that John touched on which are not often thought of as causes of abdominal pain. In my experience in pediatrics the most common cause, especially in the female, or exclusively in the female, is chronic urethritis. It is common and treatment is urethral dilatation.

In the adult male the common cause frequently overlooked is seminal vesiculitis. Physical examination can help diagnose it because these people can radiate pain to McBurney's point without much difficulty. The differentiation with chronic urethritis is the urinary examination and the high temperature, up to 103, and repeated attacks with pain primarily in the right lower quadrant, which does not ordinarily accompany appendicitis.

Moderator Pollak: We have mentioned quite a few things, but we have omitted many more, and naturally we can't exhaust the subject. But there are a few things I think we should still bring out. Pain can be localized or associated with disease of one organ on which all abdominal organs are part of a systemic generalized disease. In that connection, I think the medical man can contribute, talking about such diseases as are connected with blood vessels, the nervous system, etc.

Dr. Bacon: We mentioned very briefly at the beginning that systemic illnesses are frequently behind abdominal pain. Then we jumped over because it is too vast a field to cover in a short period of time. Vascular accidents, of the bowel and behind the peritoneum, dissecting aortic aneurysms, and aortic aneurysms will lead to pain, and they are often seen by the surgeon because the diagnosis has not been made. Sometimes it can be made; sometimes it can not

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be made. There is no question that a diagnosis of infarction of the bowel frequently can be made during the initial examination. It is the only situation that I know of where there is obviously a catastrophic occurrence within the abdomen, bowel sounds are present and diarrhea is going on; often a bloody diarrhea. Sometimes the case is surgical; more often the patient is in no condition for surgery. But in the older age group vascular degenerative diseases are a frequent cause of abdominal pain and they usually are catastrophic. The diagnosis is made. It is almost academic because death follows in a varying period of time after the diagnosis. Some can be handled surgically if the patient can be brought into condition for surgery. Many of them are recognized, and I think the more patients that are seen with abdominal pain in the older age group are recognized to have a vascular accident in the bowel. Although death generally follows, something can be done about it occasionally.

Moderator Pollak: I agree completely that the infarction of the bowel usually is fatal, and I would add it is infarction of the adrenal glands. But other infarctions in other organs, such as the spleen or kidney, are often missed. We are always amazed to find the number of scars at autopsy in these organs, especially in the kidneys, without any history at all.

Dr. Chavin: How often is it safe to study abdominal complaints radiologically?

Dr. Bacon: You have to restudy them if there is a change in the complaint. If the patient has the same type of pain pattern over a period of time which responds to a standard type of therapy which you have worked out, this is fine, but there is no specific treatment for most of these recurrent things on a functional basis. When you work out a plan of therapy, if he fails to respond to it the next time it happens or his manifestation of pain has been changed you have to restudy. You have no alternative. And that includes the complete work-up.

It is interesting, as I mentioned before, that usually Doctor X or Doctor Y has

seen this patient before. Dr. Bockus says 46 per cent of his patients in his office have functional disturbances of the colon. They are diseases which can not be completely cured; they are not medical diseases; they are social or economic diseases, as we discussed earlier. But any of these patients can develop a new disease. So many of the general population have functional disturbance of the gastrointestinal tract that those same persons can develop something more serious, and they have to be restudied whenever their complaints change, or they fail to respond to what they responded to before.

Moderator Pollak: I would like to add to this discussion on vascular disease that it is not necessary to be a so-called misnomer, vascular accident. We have in the abdomen a condition which is quite similar to that seen by cardiologists, namely, angina; angina of mesenteric blood vessels. This angina can be associated with angina pectoris actually with the angina of coronary blood vessels or it can be independent.

Dr. Bacon: It is a difficult diagnosis to make.

Moderator Pollak: I am certain of that.

Dr. McNinch: I think one of the clues there is that it is of a transient nature. The patient would have intense pain and shortly thereafter be practically asymptomatic. I think that is the primary differential. It is of a transient and perhaps repeated nature, with normal periods.

Moderator Pollak: I think we probably have the same feeling about migraine.

Dr. Bacon: That is right. Migraine equivalent can occur in the abdomen for the same reason that it occurs in the head. The trouble with these transient abdominal pains is that smooth muscle, when it contracts, causes pain in the upper abdomen whether it be due to biliary disease or pancreatic disease, gastritis, hyperacidity or peptic disease. This is a diagnosis that causes difficulty, particularly when you consider vascular disease acts in essentially the same way with the angina. The only thing I want to say about it while I have

he floor is that gallstones, when they are noted, are a surgical disease. They should never be considered a medical disease. I just want to eliminate them from the discussion on that basis. If you know a patient has gallstones, then he has surgical lesions. If you decide not to operate, it is for other reasons. But it is a surgical disease and there is no medical treatment.

Moderator Pollak: I suppose from cholelithiasis we should go to nephrolithiasis. Do you have any comments, Dr. McNinch?

Dr. McNinch: That also is a surgical disease if the stone does not pass. I think the diagnosis is relatively easy; radiation of pain, urine findings. If a stone fails to pass it causes persistent pain. It must be removed because the kidney will be irreparably damaged.

As Dr. Bacon suggested, I think there are two diseases that are primarily medical which often are referred to the surgeon; they are peptic ulcer and diverticulosis. The surgeon is called on not to treat a peptic ulcer, but its complications, which are several. The same is true with diverticulosis. We treat the complications of bleeding, obstruction and perforation. With ulcer, we treat the obstruction, perforation, and malignant degeneration. The medical treatment of peptic ulcer is divided into gastric and duodenal. If a gastric ulcer does not heal promptly, it should be operated on. If it is a duodenal ulcer, a patient can live with it without developing complications but it remains a medical problem.

Moderator Pollak: I think the central problem is when does a medical disease become surgical, or when does the medical abdomen become a surgical abdomen? One surgical abdomen, or medical abdomen for that matter, which we have failed to mention is peritonitis. Let's start with Dr. Forest.

Dr. Forest: Peritonitis is something we see occasionally in the pediatric field. I must admit that I saw more of it as an intern in general medicine than I have seen in the field of pediatrics. Frankly, I can not recall seeing a peritonitis case in pedi-

atrics that was not due to the non-specific type of peritonitis.

Moderator Pollak: How do you feel about it, Dr. Bacon?

Dr. Bacon: Peritonitis is a secondary disease. There is a primary disease which is responsible for the peritonitis. Sometimes a primary peritonitis can occur with no known focus, but peritonitis is part of the systemic illness, such as lupus. About a month ago in the *New England Journal* a group from Chicago discussed 14 surgical abdomens in patients with lupus. In a few of these pancreatitis was present, a few more vascular diseases of the intestinal tract were present, but all had lupus peritonitis which is microscopically a non-specific peritonitis.

Moderator Pollak: Would you agree with that, Dr. McNinch?

Dr. McNinch: I think there is such a thing as primary peritonitis, but it is surely a surgical disease. The fact that it is primary is found out from exploration usually in search of a perforated viscus, whether it be ulcer, diverticulum or from other causes. It is said to be primarily pneumococcal in origin, but again, a diagnosis is not made prior to exploration. I think it is always made after exploration, and we go back to the same problem; that a patient can have a superimposed disease entirely separate from his past history, and therefore no one can take a chance.

Moderator Pollak: Gentlemen, before we close I would like to ask you to forgive us in that we did not exhaust this topic. It is quite impossible. As you know, there are innumerable diseases, some clear-cut and simple, and some obscure and mysterious, which can give abdominal pain and imitate many other diseases.

In former years two diseases which today are not frequent gave us trouble. Tabetic crises for instance, which today is practically unknown, used to be confused with surgical abdomen. As for peritonitis, we used to have a great deal of pneumococcus peritonitis with pneumonia in children, but I do not remember having seen one since the antibiotic treatment[†]

To summarize, it all boils down to a good history, good physical, proper examination and good judgment supported by the proper selection and interpretation of laboratory tests and x-ray studies. It seems to me that we should have had on this panel a general

practitioner because basically this is a problem of the general practitioner. We are all being called as consultants and I think that the general practitioners should have their own panel on it some day and ask questions.

NURSES' POSITIVE-NEGATIVE ATTITUDES TOWARD PATIENTS*

HOWARD J. SHEAR, Ph.D.**

PROBLEM

What effect does the amount of nurses' work experience have upon the way they feel about patients? Are there differences between their feelings about patients in general and neuro-psychiatric (NP) patients? If there are, what are some of the factors which account for these differences? This study was designed to help answer these questions.

It was conjectured that the degree of positiveness or negativeness which nurses feel towards patients is a rather enduring reaction pattern which is firmly rooted in the personality organization of nurses and is not readily modifiable. In order for amount of work experience to produce changes in their positive-negative attitudes towards patients, it is probable that the quantity and variety of this experience must be considerable. However, in regard to their feelings about NP patients, it was conjectured that there are other factors operating. There are probably negative cultural stereotypes about NP patients that a beginning nurse has introjected and which she probably carries with her into the profession. Clinical experience suggests that the behaviors of NP patients are behaviors which socially adjusted persons would never allow themselves to act out and which are generally repugnant to normal people.

For one or both of the above reasons, beginning nurses should feel more negatively towards NP patients than patients in general, but through experience, they either

"discover" the distortion in the cultural stereotype about NP patients or they learn to become more accepting of their own unconscious tendencies through accepting the behavior of NP patients. It is possible that rather than their becoming more accepting of NP patients being the causative factor, it is vice versa, and nurses' growing acceptance is a matter of gradual maturation and acceptance of varied emotional reactions through living. If this is true, then nurses matched in age and general professional experience with a group who have more experience working with NP patients, should not differ from this matched group in their feelings about NP patients.

In order to add support to these conjectures the following hypotheses were tested:

1. Staff nurses will differ from freshmen student nurses in their degree of positive-negative feeling about patients in general.
2. The less professional experience nurses have with NP patients, the more negatively they feel about NP patients.
3. The more professional experience nurses have with NP patients, the less discrepancy there is between their positive-negative feelings about NP patients and patients in general. They will feel more negatively about NP patients than about patients in general regardless of the amount of the above discrepancy.
4. There is a relationship between the adjustment of nurses, as measured by the Index of Adjustment and Values and the degree of their positive-negative feelings about NP patients.

*From the Neuro-Psychiatric Service, Veterans Hospital, Wilmington. This is a preliminary report; a detailed report with all data will be published in a specialty journal.
†Clinical Psychologist

METHOD

The following were the groups of nurses measured, along with their research designation:

1. Entering freshmen student nurses at a general medical and surgical hospital who have had no work experience with NP patients and a work experience of several months with patients in general, *Del. Frosh.*
2. Graduating senior nurses at the same hospital who have had a three month affiliate experience working with NP patients, *Del. Seniors.*
3. Staff nurses at the same hospital who had a mean years experience as a graduate nurse of 8.59 years and who have had a mean experience as an NP nurse of 2.5 months, the latter being primarily affiliate experience, *Del. Staff.*
4. Staff nurses at a VA general medical and surgical hospital who have a mean years experience as a graduate nurse of 7.36 years and who regularly rotate on the NP ward of this hospital, *VA Staff.* There is no NP ward in the first hospital.

Measurements of nurses' degree of positive-negative feeling about NP patients and patients in general were made by a modified version of the Index of Adjustment and Value. An unmodified version of this Index was used to measure their attitude towards their selves and their self-ideal self discrepancies. There has been considerable reliability and validity study of the Index. Basically, the Index consists of 49 adjectives. The subject uses each adjective to describe himself and then reacts to each description with an affective judgment of degree of liking or disliking of himself as described by each adjective. These judgments are summed to obtain an index of degree of positive-negative feeling about self. In the present modified versions, the subject uses each adjective to describe NP patients and patients in general, so that an affective index was obtained for each of these groups.

RESULTS AND DISCUSSIONS

The following resulted from the analysis of the data so far:

Hypothesis 1 was rejected. The data indicated that not only does the most experienced nursing group not differ from the least experienced group, but when each of the nurse groups who differ from each other in amount of professional work experience are compared, there are no differences between means or variances of positive - negative - feelings - about-patients-in-general-scores.

The data indicated that hypothesis 2 may be rejected. With the exception of the mean of the *Del. Seniors* being significantly at the .05 level larger than the mean of the *Del. Staff*—the seniors feel more positively about NP patients than do the *Del. Staff*—there are no differences between means for any other nursing group comparison. However, there are differences between variances of scores which do not add support to the hypothesis being tested, but which might throw some light on some of the factors involved. Although *VA Staff* nurses have more experience with NP patients than any other group, the mean of their positive-negative-feeling-about - NP - patients scores does not differ from each of the other three groups. The variance of this group is significantly greater than the variances of either the *Del. Staff* or the *Del. Senior* groups, but is not significantly different from the variance of the *Del. Frosh.* Paradoxically, the group with the least experience with NP patients, *Del. Frosh.*, have a variance of positive-negative-feeling-about-NP-Patient scores that does not differ from the *VA Staff*, the most experienced group, but does differ significantly from the *Del. Seniors* and the *Del. Staff* variances. Hypothesis 2 was generalized from the conjectures that the less work experience with NP patients that a nurse has, the more chance there is for a speculated general cultural attitude towards NP patients to be held and the more chance for NP patients to be personally threatening to the nurse. However, the present data cast doubt upon these conjectures. Rather, one may speculate that there is consider-

able variability in feeling about NP patients in our culture or that with no work experience with NP patients there is a broad variation in degree of defensive reactions towards NP patients on the part of freshmen student nurses. The data suggest that the stereotyped attitude does not come from the culture generally but from the nursing group. The smaller variance of the *Del. Seniors* and *Del. Staff* suggests they have adopted the attitude of their group which possibly obscures any manifestation of the individual's degree of defensiveness. The finding that the *Del. Staff* are more negative toward NP patients than the *Del. Seniors* might be an indication of the negative character of this prejudice. The longer the nurse is in the profession, if she doesn't have any work experience with NP patients, the more she adopts the negative attitude of her professional group? With continuous work experience with NP patients, *VA Staff*, the distortions in the attitude of her profession are revealed to her, or the impact of the experience makes for the variations in the degree of individuals' defensive reactions. The data do not throw light on the possibility that NP experience results in emotional growth for individual nurses. The data suggest that rather than resulting in emotional growth, work experience with NP patients results in strengthening of nurses defenses. Although this might be an obstacle to emotional growth, it would permit the nurse to be comfortable in her work. If working with NP patients in itself makes nurses more defensive generally, it would mean that nurses will put psychological distance between themselves and NP patients by either pitying or overprotecting them or by reacting punitively or coldly to them. The former would manifest itself in increased reported positiveness, the latter in increased reported negativeness. This should result in a greater variability of scores which is what the data reveal.

The above reinterpretations of the factors involved are particularly speculative because the present design is not completely crucial. The significant differences be-

tween attitude towards self scores which the data reveals might reflect the lack of exact matching of these groups. In considering the affective attitude towards self scores, it is interesting that *Del. Frosh* and *VA Staff* variances of positive-negative-feeling-about-NP-patients scores do not differ nor do their mean attitude towards self differ. Their mean affective attitude towards self do differ from the means of the *Del. Staff* and *Del. Seniors*. In comparing *Del. Seniors* and *Del. Staff* there are no significant differences between the mean or variances of these scores.

Because these are not sufficiently matched groups, there are other possible interpretations of the data. Perhaps nurses who work in a VA general medical and surgical hospital have certain unique characteristics which distinguish them from these non VA nurses. The teaching staff at the Delaware Hospital reported that for some random reason the Frosh were a more gregarious group than the seniors are or were when they were freshmen. Consequently, it is not possible to generalize from the data, although it is suggestive, that three years student nursing experience modifies student nurses' attitudes towards themselves and NP patients. If a future design could make measurements on identically matched freshmen and senior groups with matched controls of non nurses, or measure nurses working in matched VA GM&S Hospitals, one with an NP ward and one without, some of the hypotheses generated from the present data might be given support.

The data indicate that the first half of hypothesis 3 may be rejected while the second half may be accepted. The data indicate that the discrepancy between their feeling about NP patients and patients in general remains constant regardless of experience. Each of the nursing groups do feel more positive about patients in general than about NP patients.

An insignificant relationship between affective attitudes towards NP patients and indexes of adjusted and maladjusted nurses was obtained which supports the rejection of hypothesis 4.

FUNCTIONAL INTESTINAL OBSTRUCTION

EDWIN K. MEHNE, M.D.*

A review of the medical literature of the past few years reveals a dearth of articles dealing with the problem of intestinal obstruction which is not due either to mechanical or vascular causes. This is certainly not in direct proportion to the relative frequency of the condition, since it is a common problem to the surgeon, and is high on the list of differential diagnoses to be considered in a large percentage of cases of intestinal obstruction. The sparsity of articles is probably directly related, as noted by Werelius and Guy¹, to the paucity of information we have available concerning the cause, relationships and treatment of this distressing situation.

While there are probably as many classifications of intestinal obstruction as there are authors, most fall within the general framework outlined by Shackelford²:

Causes of Intestinal Obstruction:

1. Functional
 - a. Adynamic (Paralytic)
 - b. Dynamic (Spastic)
2. Mechanical
3. Vascular

This discussion is entirely concerned with the group listed as "functional". Almost every post-laparotomy patient exhibits some degree of functional bowel inhibition for periods of a few hours to a few days. Likewise, every generalized peritonitis, and a good many which are localized, involve a similar bowel dysfunction. The physician regards these as natural pathological concomitants which, although undesirable, are at least explainable and nearly always respond to measures aimed at treatment of the initiating condition.

If this large group of functional ileus is eliminated from discussion, there still re-

mains a very substantial group that is protean in casual relationships attributed to it. Documented cases of functional intestinal obstruction run the gamut of related causes from trauma, through infectious and endocrine diseases, to the purely psychosomatic. Likewise, many attempts have been made to explain the neurophysiological abnormalities involved, but the vagueness of the explanations and the multiplicity of ideas suggested are a testimony to the lack of specific information.

However, although lacking this background, there are certain clinical features which are of great value in both the diagnosis and management of these cases. This is not an attempt to survey and digest the literature on the subject, but rather to emphasize a few points which have not found their way into many of the articles—namely, that:

1. Functional ileus may take the form of the dynamic or spastic type.
2. The symptoms are often deceptively occult.
3. The differentiation from mechanical obstruction may be impossible.
4. Treatment is largely a matter of skilled patience.

The first point should be stressed to both internist and surgeon. The older literature almost universally ascribed this condition to a complete paralysis of the bowel. As a result, the recurring descriptions of signs and symptoms speak of painlessness and silent abdomen. Even a recent text on gastroenterology by Palmer³ fails to mention the dynamic variety and speaks of the lack of peristalsis. As a result, there has been a tendency to associate any bowel obstruction exhibiting abdominal cramps and ac-

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tive peristalsis with mechanical etiology, and to dismiss the possibility of a functional cause. An equally erroneous concept is that obstruction associated with absent peristalsis and lack of pain automatically denotes paralytic ileus. This leads to failure in diagnosing the case of mechanical obstruction which has entered an adynamic phase.

Shackleford² points out that dynamic ileus may consist of single or multiple collapsed, spastic segments of either the small or large bowel. The intervening areas of bowel may exhibit hyperactive peristalsis in an effort to maintain progress of the digestive stream through these narrowed areas. Eventually these intervening areas become dilated simply as a result of hydrodynamic pressure. The situation has analogies to Hirschsprung's disease, although of different etiology.

The second and third features can be considered together since they are mutually related. The paucity of signs and symptoms and their unobtrusive appearance are the more easily overlooked in the focus of both the patient's and physician's attention to the primary disability, whether it be a spine injury, a pneumonia or a painful kidney stone. Even if suspicion is raised and x-ray films of the abdomen obtained, the condition may go undiagnosed if there has not been appreciable gaseous distention of the gut. This is a relatively infrequent finding, however, since functional ileus is likely to be associated with moderate to large collections of gas within the bowel lumen. This leads to one of the cardinal points of differentiation in that the gas pattern is widely diffused throughout small and large intestine right down to the rectum rather than having an abrupt point of mechanical stoppage beyond which the gas cannot travel. It is in this situation that a barium enema is invaluable in clinching the diagnosis, if the barium column readily fills the gas-dilated large bowel and may reflux into gas-dilated terminal ileum without encountering obstruction.

There are a number of situations in which it remains impossible to conclusively distinguish between mechanical, vascular

and functional ileus. Bockus¹ has emphasized this point, and it may be inferred that surgical exploration is justified in a certain percentage of these cases just as it is with clinically suspected but surgically-unconfirmed appendicitis. Also along this line Bockus emphasizes that the contracted bowel segments of the dynamic variety frequently disappear with induction of anaesthesia so that at laparotomy the entire bowel is uniformly dilated and atonic. This is especially true following spinal anaesthesia, and this appearance may lead to confusion in attempting to correlate the operative findings of an apparent paralytic ileus with the pre-operative clinical picture of pain and active peristaltic sounds. Without further laboring the point, it is sufficient to state that if exploration of the peritoneal cavity is done on the suspicion of mechanical or vascular intestinal obstruction, and expeditious but thorough examination fails to confirm this, it may readily be assumed that a functional ileus exists. With this decided, further manipulations or surgical maneuvers are inappropriate. Closure of the abdomen followed by a few well-chosen supportive measures are then indicated.

As previously intimated, absence of a basis for explaining these phenomena precludes specific therapy. Hosts of remedies have been championed but most writers of recent date concur in advocating measures aimed at maintaining the physiological status quo. These are the universally adopted practices involving electrolyte balance, evacuation of intestinal contents and physical and chemical bowel stimulants when indicated.

Several points are worthy of clarification and emphasis. The use of intestinal intubation via the nasogastric route is almost unanimously recommended. What is seldom mentioned, however, is the fact that these cases which have abdominal distention and poor intestinal mobility are probably the most difficult of all to successfully intubate beyond the pylorus. Failing this, much is nevertheless accomplished by maintaining continuous gastric aspiration. This not only removes the considerable gastric

secretion volume plus any reflux from the upper small bowel, but eliminates swallowed air which comprises by far the greatest portion of intestinal gas in these cases.

Many types of medication have been used in an attempt to promote normal peristalsis. Probably none will initiate bowel activity in the paralytic phase. However, when some bowel activity is detected by auscultation, it may be weak or disorganized. At this stage potent pharmacological agents may benefit. Neostigmine (prostigmine) 1:2000, given subcutaneously in doses of 1 c.c. (0.5 mgm.) every one-half hour up to a total of 6-8 doses, followed by an enema, may be rewarding. Shackleton² favors DFP (Di-isopropyl fluorophosphate) which is another potentiator of acetylcholine, probably by inhibition of cholinesterase.

The following case histories serve to illustrate some of the points enunciated above.

Case No. 1, a 44 year old white man, was admitted to the hospital on November 10, 1956 because of a severe low back pain. He had chronic low backache since receiving multiple shrapnel wounds of the left lumbar area in 1943 while on active army duty. Two weeks prior to admission he had developed acute backache which persisted despite several chiropractic adjustments. However, he managed to be up and around until the day of admission when he was awakened during the night hours with immobilizing pain for which he was brought to the hospital by ambulance.

The patient was in acute distress from low back pain. The physical examination negative except for lumbar muscle spasm, exquisite tenderness on palpation over L₃₋₄ and positive bilateral straight leg raising tests.

Course in hospital: He was placed on bed boards and given codeine with aspirin for pain. Twenty-four hours later he developed sudden abdominal distress in the form of distention and nausea but little or no pain. Examination revealed a distended, tympanitic abdomen with normally active bowel sounds on auscultation. Rectal ex-

amination was negative. X-ray of the abdomen on November 11th revealed considerable gaseous dilatation of much of the small bowel and the entire large bowel.

Reflex ileus was suspected and a regimen of nasogastric suction, prostigmine parenterally, and intravenous fluids was instituted. The following day the distension persisted, the temperature was 101°, the pulse 110-120, and no bowel sounds were audible. Exploration was done because of the possibility of bowel strangulation. At operation there was a flaccid gastrointestinal tract with generalized dilatation from the ligament of Treitz to the rectum. The bowel was viable in appearance throughout; the abdomen was closed. Two days later, x-ray of the abdomen showed nearly complete absence of gas in the bowel, the patient had begun to defecate, and was taking fluids satisfactorily by mouth. He went on to complete recovery.

Observation: This case illustrates the relatively remote type of relationship between functional ileus and its precursor. Also illustrated is the fact that even though functional ileus was diagnosed initially, the subsequent clinical course aroused enough suspicion of a complicating process to warrant exploration.

Case No. 2, a 41 year old colored man, was admitted to the hospital on October 29, 1957 with a one-week history of lower abdominal crampy pain relieved by drinking milk. It was associated with nausea and a little vomiting. He also complained of mild chills followed by flushing and generalized aching. Bowel movements were normal. There was some urinary frequency without other urinary complaints.

The abdomen was round and obviously distended, board-like in rigidity and tender throughout. Auscultation revealed hyperactive peristalsis, but no rushes or tinkles ordinarily associated with mechanical obstruction.

X-ray of abdomen showed no free peritoneal air; dilatation of many loops of small bowel and most of the colon. There was absence of gas-filled loops in a conspicuous area of the lower right quadrant

where there was an opacity suggesting a soft tissue mass.

Course in the hospital: The patient was observed for several hours. Because of persistent abdominal pain, rigidity, tenderness and increasing appearance of distress, a laparotomy was decided upon. A localized abscess from a previously ruptured appendix or other viscus was suspected. At operation there was about a liter of clear yellow peritoneal fluid which, on culture, subsequently grew no organisms. There was segmental dilatation of the entire small bowel and most of the large bowel with skip areas which appeared normal in size and appearance. No mesenteric adenopathy or pus was evident. The abdomen was closed.

The patient recovered uneventfully, gradually taking oral diet and having spontaneous bowel movements. Repeated x-rays showed progressive diminution of bowel gas. Suddenly, on November 12th, he developed abdominal distention and x-rays revealed a few greatly distended isolated loops of small bowel. Peristalsis was heard infrequently. Attempts to pass a Cantor tube beyond the pylorus were unsuccessful. He was re-explored on November 13th; mechanical small bowel obstruction due to adhesions was found. The adhesions were lysed and the patient made an uneventful recovery.

Observation: Here is a segmental dynamic ileus having masquerading features which led to an indication for exploration. This, in turn, led to the complication of a frank mechanical obstruction.

Case No. 3, a 69 year old colored man, was admitted to the hospital on September 8, 1958 with symptoms referable to the respiratory tract. A workup led to the diagnosis of carcinoma of the right lung. On October 28th a localized resection of a peripheral adenocarcinoma of the right upper and adjacent right lower lobe was performed. The postoperative course was smooth until the evening of the second day when there developed abdominal distention with diminished, but audible, peristaltic sounds. The following day vomiting ensued

and abdominal x-rays showed the entire colon and much of the small bowel to be distended.

He was given intravenous alimentation, subcutaneous prostigmine and hot packs to the abdomen. An attempt to pass a Cantor tube beyond the pylorus was unsuccessful. The patient's condition worsened from the abdominal standpoint despite the excellent recuperation of his pulmonary status. On November 3rd laparotomy was performed to rule out mechanical obstruction. The findings were uniform distention of the entire small bowel, no distension of the large bowel and no mechanical obstruction. The Cantor tube was manually threaded into the upper jejunum.

Despite close post-operative management the patient developed auricular fibrillation, cardiac decompensation, pneumonia, and expired on November 7th.

Observation: Here again the differentiation from mechanical obstruction was difficult, and the extended course of the ileus, coupled with the worsening condition, forced more active measures.

Case No. 4, a 62 year old white male, was admitted on November 4, 1958 with a history of ankle and lower abdominal swelling of several weeks duration and diarrhea followed by tarry stools.

Examination revealed a chronically-ill appearing man with lower extremity edema and cardiac murmurs suggestive of rheumatic mitral stenosis. His laboratory studies were normal except for serum albumin of 1.4 gm. and serum globulin of 3.5 gm.

Course in hospital: A barium enema showed changes in the cecum consistent with the diagnosis of carcinoma. The patient was prepared for surgery with diuretics, digitalization, vitamins, diet and blood transfusions. On November 19th a right hemi-colectomy and ileo-transverse colostomy was done for a localized carcinoma of the cecum. The post-operative course was smooth, with the onset of bowel movements on the second post-operative day and the institution of an oral liquid diet. On the following two days the patient

progressed to a full liquid diet, bowels continued to move spontaneously, and he was ambulatory. On the evening of the fourth post-operative day, there suddenly developed abdominal distention with tympany to percussion. Bowel sounds were absent and the patient vomited. Abdominal films showed several loops of distended small bowel and distention of the large bowel to just below the splenic flexure where the gas pattern suddenly ended. Chest film showed evidence of atelectasis in the left lower lung field just above the diaphragm with elevation of the left hemi-diaphragm, shift of the mediastinum to the left, and mottling of the lower lung field directly above the atelectatic shadow.

It was felt that the patient had developed a post-operative atelectasis and pneumonia with a secondary reflex ileus. However, to confirm this impression, a barium enema was done. The barium flowed readily through the dilated splenic flexure and left half of the transverse colon, through the anastomosis and into the dilated loops of terminal ileum. He was given nasogastric suction, antibiotics, Alevaire by nebulizer, and prostimine subcutaneously. In 24 hours bowel sounds were heard, the patient began passing gas by rectum, and x-rays showed clearing of the atelectasis and markedly diminished bowel distention. The patient went on to a rapid recovery.

Observation: The gas distention pattern with its abrupt termination at the junction of the splenic flexure with the descending colon was suggestive of mechanical obstruction. However, the ready flow of barium past this point into the dilated loops of bowel strongly confirmed the clinical impression of functional ileus secondary to pulmonary atelectasis.

SUMMARY

1. A brief introduction explains the usage of the term "functional ileus" and its two components, spastic and paralytic.

2. A discussion then follows relative to four aspects of this problem which are frequently ignored in the literature, namely: the recognition of a dynamic form; the deceptively occult nature of the symptoms; the difficulty in differentiation from mechanical obstruction; and the need for skilled patience as the primary basis of treatment.

3. Four case histories are presented which illustrate these aspects.

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+ Editorial +

MEDICO-LEGAL RELATIONSHIPS

The recent Fourth Annual Medico-Legal Symposium, a combined venture of the Delaware Bar Association and the Medical Society of Delaware, was a success. This is good because it came at a time when, according to numerous articles in the literature, pleasant relationships between our professions are not universal. The mutual respect and cordial relations existing between our two groups should make Delaware an ideal place in which to test some ideas that eventually might become beneficial on more than a local level.

One of the outstanding problems to the legal profession is that of the expert medical witness. An honest difference of opinion is to be expected in almost any situation, but there are far too many instances where physicians, qualified as experts, give completely conflicting testimony, a divergence so great that it is obvious that undue bias is involved. There probably is no cure that will be completely effective. An impartial panel of specialists selected by the medical society to be used in an advisory capacity by the court has been suggested; some time ago *The Journal* published an article on this subject. So long as divergent medical testimony seems to be a problem, should not this potential cure be tried?

A major problem from the physician's viewpoint is his vulnerability to malpractice suit. Most lawyers are sympathetic to this problem but point out that the greatest damage to the physician is that of publicity. If the press would suppress news of this type until the case came to trial, little harm would be done. Such is not the case.

When a doctor is accused of malpractice, headlines are made and usually continue for several days. If the physician is vindicated before the case reaches trial, this fact is usually covered by a brief notice that in no way compensates for the harm that has been done. Even if equal space were given, it could not undo the harm already done. Fortunately, most newspapers see the matter in this light and in a recent symposium on the question of "playing fair with doctors," most of the editors questioned believed that publication of news about malpractice suits should be postponed until the accused doctor has had his day in court. The editor of *The Wilmington Journal-Every Evening*, however, is quoted as saying: "We print the story when the suit is filed in the belief that when news is temporarily suppressed rumors that are worse than the fact fly fast." It is too bad that his good intentions achieve a result that to the majority seems definitely undesirable.

Members of the legal and medical professions are on the brink of a new era marked by a greater mutual understanding of everyday problems. Before much more progress can be made, we of the medical profession must make concessions. If we expect the members of the legal profession to help the innocent physician when falsely accused, it follows that we should help them when he is guilty. Here again, a panel of experts under the supervision of the medical society might become a large factor in fostering medico-legal harmony.

Let us carry on the good work started in these symposia.

MAJOR MEDICAL MEETINGS IN DELAWARE

Standing Schedule

Beebe Hospital	General Staff	2nd Friday	Monthly
Delaware Hospital	General Staff	2nd Tuesday	Feb., May, Sept., Dec.
Kent General Hospital	General Staff	3rd Tuesday	Monthly
Memorial Hospital (Wilmington)	General Staff	2nd Tuesday	Jan., March, June, Oct.
Milford Memorial Hospital	General Staff	2nd and last Tuesdays	Monthly
Nanticoke Memorial Hospital	General Staff	1st Thursday	Monthly
St. Francis Hospital	General Staff	4th Tuesday	March, May, Oct.
		1st Tuesday	December
Wilmington General Hospital	General Staff	4th Tuesday	Jan., April, Sept., Nov.

Kent County Medical Society	Monthly Meeting	3rd Tuesday	September - June
New Castle County Medical Society	Monthly Meeting	3rd Tuesday	September - June
Sussex County Medical Society	Monthly Meeting	2nd Thursday	September - June

Delaware Academy of General Practice	Monthly Meeting	1st Tuesday	September - June
Delaware Pathology Society	Weekly Meeting	Each Friday	

Special Schedule

Medical Society of Delaware	Seminar on Obstetrics	Milford Memorial Hospital	March 25, 1959
Medical Society of Delaware	Annual Meeting	Academy of Medicine	October 14-15, 1959
American Medical Association	Annual Meeting	Atlantic City, N. J.	June 8-12, 1959
Delaware Academy of General Practice	Symposium on Cancer Detec- tion and Treatment	A. I. du Pont Institute	April 25, 1959
Delaware Academy of General Practice	Annual Meeting	Academy of Medicine	December 5, 1959
Delaware Academy of Medicine	"Sarcoidosis"	A. I. du Pont Institute	March 9, 1959
Delaware Academy of Medicine	Building Dedication	Academy of Medicine	October 13, 1959
Delaware Health Forum	"Life Stress and Bodily Disease"	P. S. du Pont School	March 24, 1959

Delaware Division, American Cancer Society	Annual Meeting		October 22, 1959
Delaware Chapter, American Heart Association	Annual Meeting		May 19, 1959
Mental Health Association of Delaware	Annual Meeting		April 30, 1959

The Journal will be pleased to receive notice of major medical meetings in this area for inclusion in this schedule.

WOMAN'S AUXILIARY

Your President attended the fifteenth annual conference for Presidents and Presidents-elect on October 6, 7, and 8 in Chicago. The three day meeting was interesting and covered all phases of auxiliary work.

On the last day of our conference Mr. Frank Burrows Jr., Field Director of the Citizen's Traffic Board lectured on safety and illustrated his talk with magic tricks. I would like to review a few of the highlights of his lecture. Mr. Burrows pointed out that a driver should yield the right of way as he never has the right of way by law. He also cautioned that when driving 60 miles an hour that it takes 88 feet to stop your car. He told us to prepare to stop when we see a yellow light and cross the street when and where we should. Using the contents of a Safety Six Pack as illustrations, Mr. Burrows declared:

1. A grain of corn—Safety is not corny. Put this grain in your coin purse to remind yourself to perform an act of courtesy in driving.
2. A candy sucker—This represents the problems of safety. All of us need to lick them. Use your tongue.
3. A piece of string—Tie this on your finger to remember to string along with safety programs.
4. A rubber band—Put this around your purse to remind you that we all have to stretch our efforts to encompass the safety programs.
5. Safety pin—What is it? A mechanical guard. Keep your car in safe working order. Keep your guard up.
6. Band Aid—Put this on the back of your hand. When you drive remember the things I have said.

Mrs. Robert Wright, our State Safety Chairman has submitted the following report.

"The safety program for Delaware this year has made a slow start but finally the wheels are turning. National headquarters has suggested three types of safety programs to follow: Highway, Child and Farm and Home. The county chairmen have been requested to pick one of the three and work on that as their goal. Although it is too early for reports, your State Chairman is certain that the work at the county level will be done effectively and accomplish its purpose of making each community in the State of Delaware more safety conscious."

Mrs. Hewitt W. Smith, President,
The Woman's Auxiliary to the
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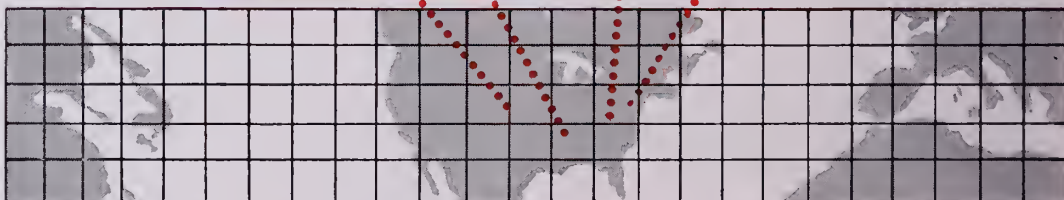
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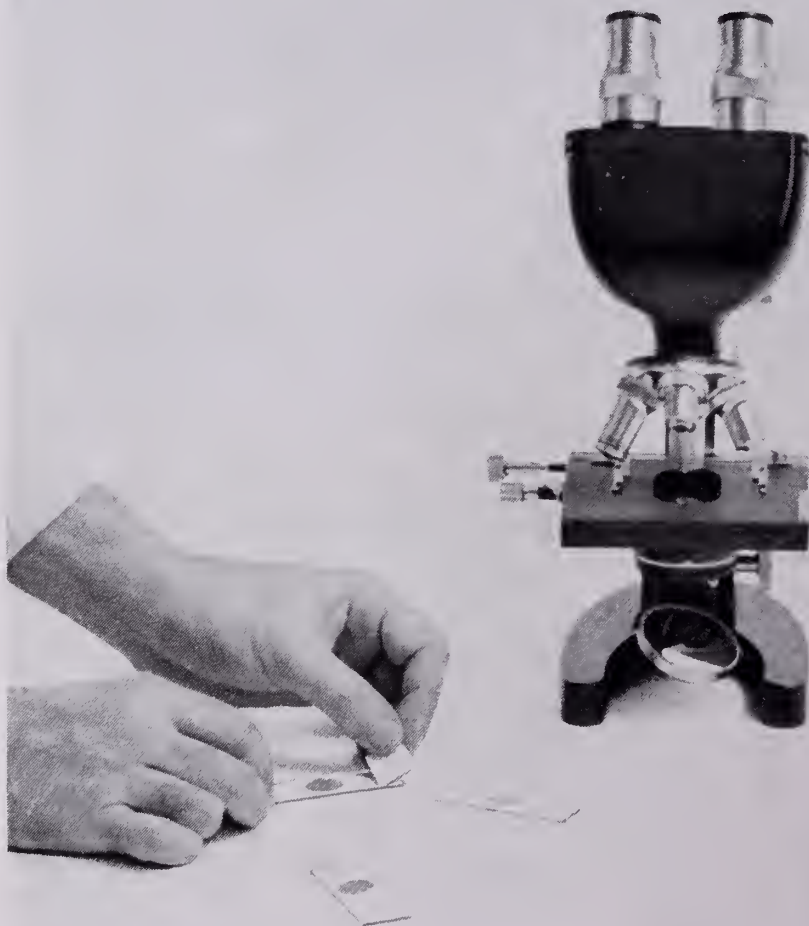
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2. Filmtab—Film-coated tablets, Abbott—pat. pending for

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1. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.

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Forsyth ²	58	"pronounced" 37	20	—	1
Lewis ³	38	"good" 25	6	—	7
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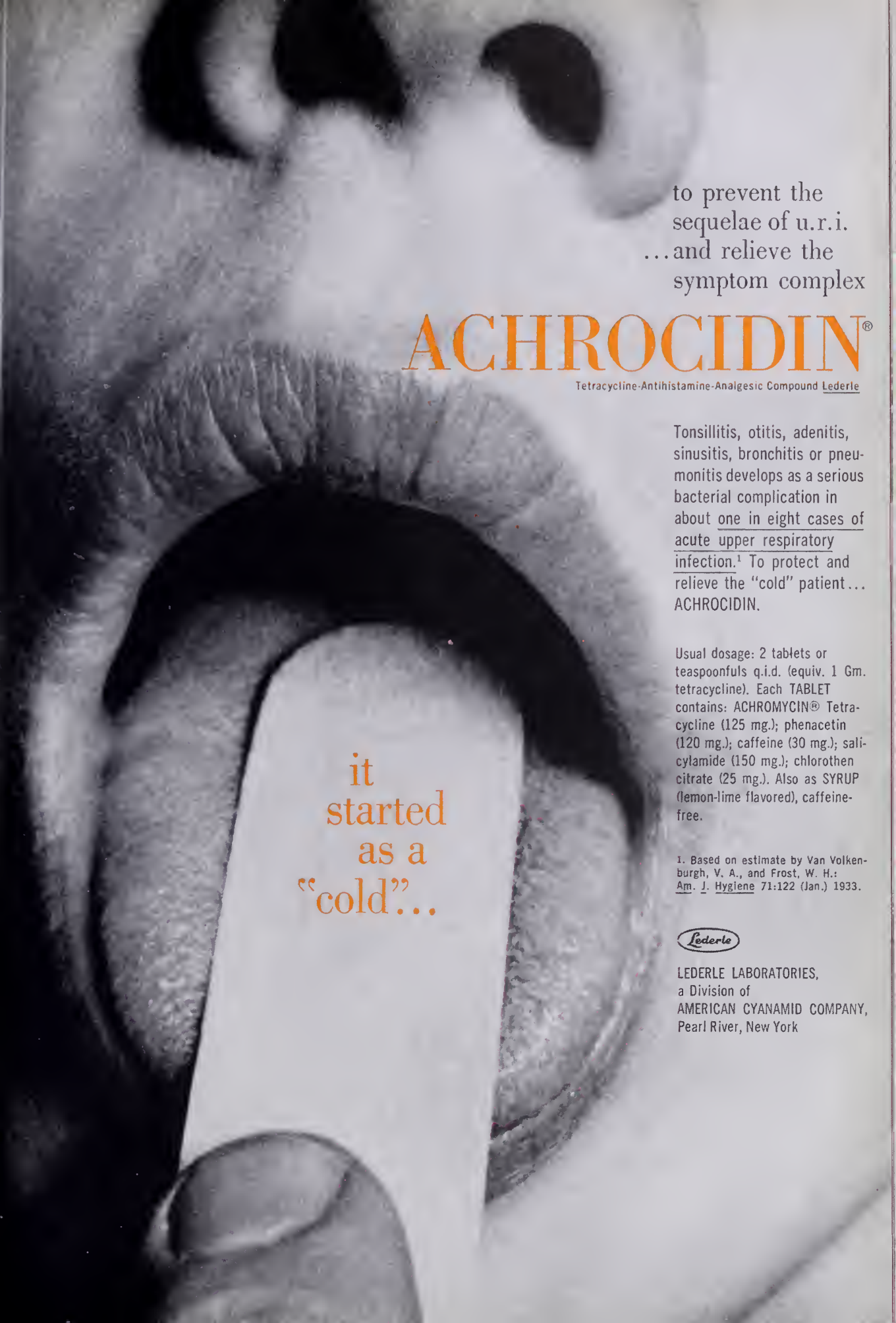
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¹Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, *Postgraduate Medicine*; 24:183, August, 1958.

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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933.

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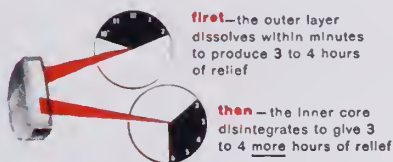
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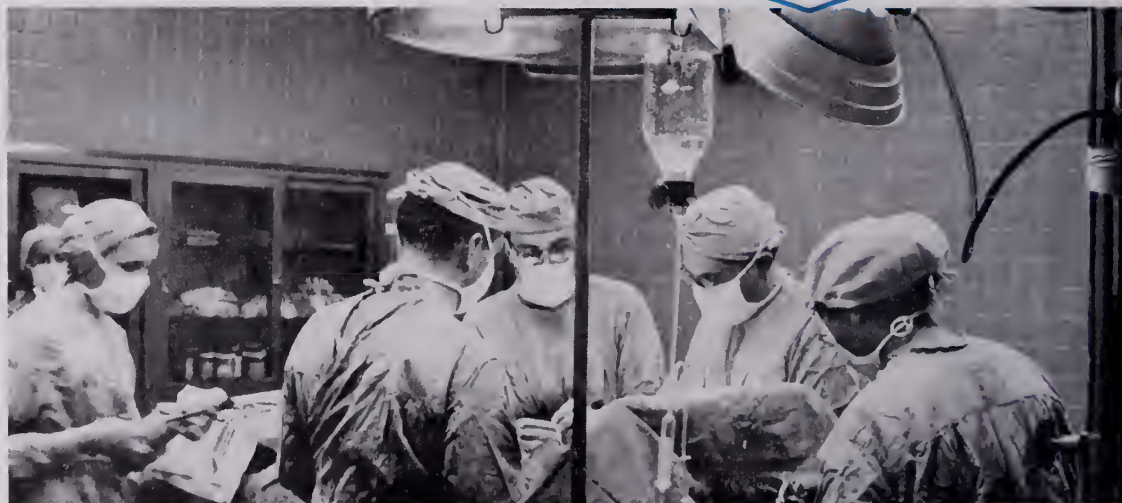
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(1) Rubin, A., and Babbott, D.: J.A.M.A. 168:498, (Oct. 4) 1958. (2) Kinsey, A. C.; Pomeroy, W. B., and Martin, C. E.: Sexual Behavior in the Human Male, Philadelphia, W. B. Saunders Company, 1948.

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Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31

APRIL, 1959

NUMBER 4

INDUCTION OF LABOR

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DOSE AND ADMINISTRATION—*Adults*: 1 Gm. every six to eight hours. *Children*: 100 mg. per Kg. of body weight per day in divided doses at six- to eight-hour intervals. The total dose in children should not exceed the adult dose of 1 Gm. given at any single injection, with exception of treatment of *Hemophilus influenzae* meningitis in which higher doses are employed.

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REFERENCES—(1) Glazko, A. J., et al., in Welch, H., & Marti-Ibañez, E.: *Antibiotics Annual 1957-1958*, New York, Medical Encyclopedia, Inc., 1958, p. 792. (2) Unpublished data: Research Laboratories, Parke, Davis & Company, 1958. (3) Ross, S.; Puig, J. R., & Zarembo, E. A., in Welch, H., & Marti-Ibañez, E.: *Antibiotics Annual 1957-1958*, New York, Medical Encyclopedia, Inc., 1958, p. 803. (4) Payne, H. M., & Hackney, R. L., Jr.: *ibid.*, p. 821. (5) McCrumb, E. R., Jr.; Snyder, M. J., & Hicken, W. J.: *ibid.*, p. 837.

TYPICAL CLINICAL EXPERIENCE WITH CHLOROMYCETIN SUCCINATE

Type of infection	RESULTS			
	Number of Patients	Excellent to Good	Fair	Poor
Respiratory ^{2,4,5}	32	32		
<i>Shigella</i> dysentery ⁶	14	14		
Enteritis ⁷	10	6	2	2
Bacteremia ^{3,5}	5	5		
Meningitis ^{2,5}	4	3		1**
Rocky Mountain spotted fever ^{2,5}	2	2		
Ear abscess with cellulitis ¹	1	1		
Lung abscess ⁴	1			1
Typhoid fever ⁵	1	1		
TOTALS	70	64	2	4

*Includes 15 patients who were administered CHLOROMYCETIN SUCCINATE by nebulization under intermittent positive pressure breathing.

**Patient was hydrocephalic at birth; cerebrospinal fluid was sterile at time of death.

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1. If patient is taking 40 or less units of insulin daily and gives no history of severe or "brittle" diabetic response, discontinue insulin and replace with DIABINESE as in The New Patient.
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... the preferred drug where anxiety or emotional agitation must be controlled

- ... provides sedation without hypnosis, a sense of relaxed well being and tranquility
- ... effects a gradual and sustained lowering of elevated blood pressure in patients with mild, labile or essential hypertension

supplied: 0.1 mg. and 0.25 mg. tablets in bottles of 100, 500 and 1000, or on prescription at leading pharmacies

RAUWOLFIA
SERPENTINA

in cases of hypertension

Rauval[®]

(Rauwolfia Serpentina, Vale)

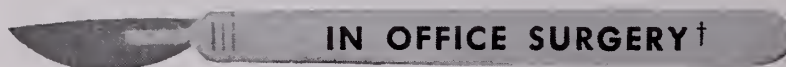
... double assayed to insure optimal therapeutic effect
tested chemically to insure total alkaloid content
tested biologically to insure uniform hypotensive action

- ... ideal therapy in labile and moderate hypertension or as adjunctive therapy in severe hypertension
- ... achieves gradual lowering of the blood pressure, gentle sedation, tranquilization with prolonged effect even after cessation of therapy

supplied: 50 mg. and 100 mg. tablets in bottles of 100 and 1000, or on prescription at leading pharmacies



THE VALE CHEMICAL COMPANY, INC. *allentown, pa.*
PHARMACEUTICALS



ELECTIVE AND TRAUMATIC

use

XYLOCAINE® HCl SOLUTION (brand of lidocaine*) *as a local or topical anesthetic*

Xylocaine is routinely fast, profound and well tolerated. Its extended duration insures greater postoperative comfort for the patient. Its potency and diffusibility render reinjection virtually unnecessary. It may be infiltrated through cut surfaces permitting pain-free exploration and longer suturing time.



ASTRA PHARMACEUTICAL PRODUCTS, INC., WORCESTER 6, MASSACHUSETTS, U. S. A.

† warts; moles; sebaceous cysts; benign tumors; wounds; lacerations; biopsies; tying superficial varicose veins; minor rectal surgery; simple fractures; compound digital injuries (not involving tendons, nerves or bones)



*U. S. PAT. NO. 2,441,498 MADE IN U. S. A.



If she needs nutritional support... she deserves

GEVREAL®

Vitamin-Mineral Supplement Lederle

CAPSULES—14 VITAMINS—11 MINERALS

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY
Pearl River, New York



Cerumenex^{T.M.}

DROPS

For easy, safe,
painless removal
of ear wax—
without
instrumentation



Proved clinically
effective
in 4,464
(95.0 per cent)
of 4,695 patients
(ages
3 months to 83 years)
with excess
or impacted cerumen†

For patient convenience and economy, prescribe 'Cerumenex' Drops in the regular 15 cc. bottle, packaged with cellophane wrapped blunt-end dropper.

†Complete bibliography
available on request

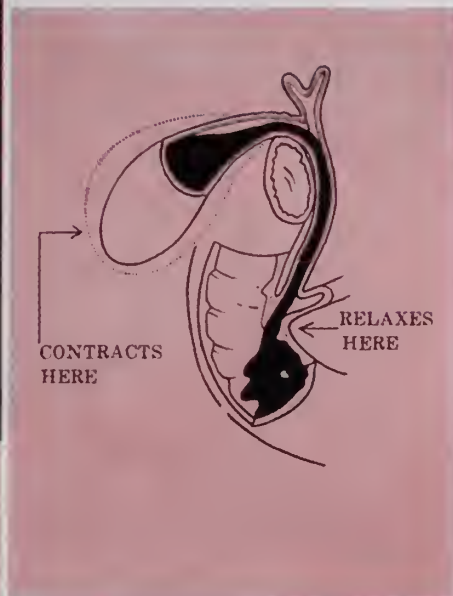
T.M.
CERUMENEX, "CONTAINS CERAPON" 10.0% IN PROPYLENE GLYCOL
WITH CHLOROBUTANOL 0.5% *EPAND OF TRIETHANOLAMINE POLY-
PEPTIDE CLEATE-CONDENSATE U.S. AND FOREIGN PATENTS PENDING

PROBILAGOL^{T.M.}

LIQUID

cholecystokinetic-cholagogue action

Specifically
designed
for therapeutic and
prophylactic
management
of dyspepsia and
food
intolerance



A unique
cholecystokinetic-
cholagogue,
'ProBilagol' provides
prompt gallbladder
evacuation,
prolonged relief,
safety,
extreme palatability

Supply: Bottles of
12 and 6 fluid ounces.

T.M.
PROBILAGOL D-GLUCITOL WITH HOMATROPINE METHYLBROMIDE,
PURDUE FREDERICK

Senokot[®]

natural bowel corrective
TABLETS / GRANULES

IN CONSTIPATION



Assures bowel
correction
and rehabilitation
because it "...acts
in a way almost
indistinguishable
from the normal
physiologic
mechanism..."¹

without
mucosal irritation due
to chemical contact
without
incompatibilities
to antacids and
other medications

Supply: Tablets, small and
easy to swallow,
in bottles of 100.

Granules, cocoa-flavored,
in 8 and 4 ounce canisters.

1. Herland, A. L., Lowenstein, A.: Quart.
Rev. Surg. Obst. & Gynec. 14:196 (Dec.) 1957.

SENOKOT® STANDARDIZED CONCENTRATE OF TOTAL ACTIVE PRINCIPLES
OF CASSIA ACUTIEDLIA PODS. PURDUE FREDERICK

The Purdue Frederick Company

DEDICATED TO PHYSICIAN AND PATIENT SINCE 1892
NEW YORK 14, N.Y. | TORONTO 1, ONTARIO



new 3-way
build-up for
the under par
child...

Improve appetite and energy

with ample amounts of vitamins—B₁, B₆, B₁₂.

strengthen bodies with needed protein

Through the action of L-Lysine, cereal and other low-grade protein foods are up-graded to maximum growth potential.

discourage nutritional anemia

with iron in the well-tolerated form of ferric pyrophosphate...plus sorbitol for enhanced absorption of both iron and B₁₂.

new

NCREMIN^{*}

Lysine-Vitamins

WITH IRON SYRUP

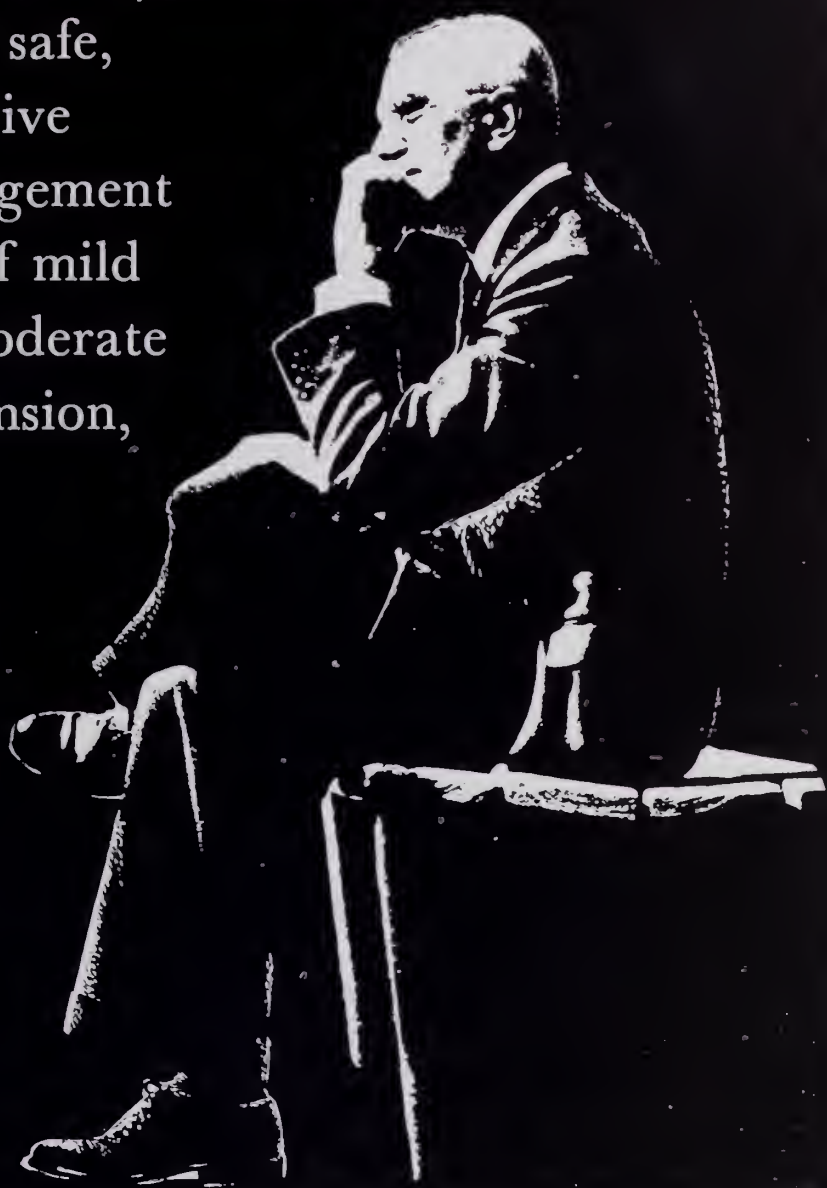
delicious
cherry flavor—
no unpleasant
aftertaste

Average dosage is 1 teaspoonful daily. Available in bottles of 4 and 16 fl. oz.

Each teaspoonful (5 cc.) contains:

L-Lysine HCl	300 mg
Vitamin B ₁₂ Crystalline	25 mcgm
Thiamine HCl (B ₁)	10 mg
Pyridoxine HCl (B ₆)	5 mg
Ferric Pyrophosphate (Soluble)	250 mg
Iron (as Ferric Pyrophosphate)	30 mg
Sorbitol	3.5 Gm.

Now with Cryptenamine...
 for safe,
 effective
 management
 of mild
 to moderate
 hypertension,



R_x Veratrite®

Prescribed with confidence 8,863,769 times Veratrite continues to be the antihypertensive of choice for treating geriatric patients.

Veratrite effectively reduces blood pressure through action on the sympathetic nervous system, without detriment to the cardiac output.

Each VERATRITE tabule contains:

Cryptenamine (tannates) 40 C.S.R.* Units
 Sodium nitrite..... 1 gr.
 Phenobarbital..... ¼ gr.

*Carotid Sinus Reflex



for
CERTAINTY
against
the
COCCI

Erythrocin[®] **stearate**
(Erythromycin Stearate, Abbott)

an uncommon antibiotic for common infections

after millions of prescriptions ...an unparalleled safety record

provides fast, high blood and tissue concentrations

Because ERYTHROCIN Stearate is rapidly absorbed, patients get therapeutic blood and tissue levels within 30 minutes. High, peak levels occur between one and two hours—and effective concentrations are maintained for at least six hours. Always at hand, then, against more critical infections is ERYTHROCIN-I.M.—the only intramuscular form of erythromycin available.

backed by years of clinical effectiveness

Actually, every prescription you write for ERYTHROCIN is backed by more than six years of clinical effectiveness against coccal infections. And, with the problem of antibiotic resistance becoming more important daily, the value of ERYTHROCIN as a day-to-day anticoccal agent is dramatically underlined.

supported by an unparalleled safety record

During all the years ERYTHROCIN has been prescribed, serious reactions have been practically nonexistent. Unlike penicillin, allergy is no problem. And, in contrast to "broad-spectrum" action, the normal flora of the intestinal tract is virtually unaltered with ERYTHROCIN therapy.

offers bactericidal activity

Unlike broad-spectrum antibiotics, ERYTHROCIN is classed as a bactericidal antibiotic. It offers lethal action against common coccic invaders—resulting in prompt clinical response.

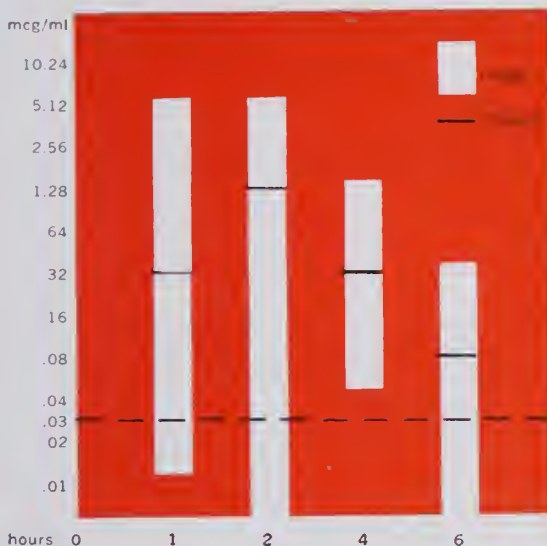
provides convenient dosage forms

Usual adult dose is 250 mg. four times daily.

Children's dosage is reduced in proportion to body weight. ERYTHROCIN comes in Filmtabs® (100 and 250 mg.), bottles of 25 and 100. Also in oral suspension and for intramuscular use. Won't you prescribe ERYTHROCIN doctor? *Abbott*

if you're concerned with blood levels...

Dotted line shows actual inhibitory concentrations against most organisms. Note the high ranges and medians of ERYTHROCIN Stearate at one, two, four and six hours. Data represents three studies with adults. Each was given one 250-mg. Filmtab.



And where you need a consistent uniform response that only an injectable form can provide, remember—**ERYTHROCIN-I.M.** (Erythromycin Ethyl Succinate, Abbott) and **ERYTHROCIN LACTOBIONATE**.

©Filmtab—Film-scaled tablets, Abbott; pat. applied for.

For every topical indication, a Burroughs Wellcome 'SPORIN'...



'CORTISPORIN'®

brand OINTMENT

Combines the anti-inflammatory effect of hydrocortisone with the comprehensive bactericidal action of the antibiotics.

OINTMENT: Tubes of $\frac{1}{8}$ oz. and $\frac{1}{2}$ oz. (with applicator tip) for ophthalmic or dermatologic application.

OTIC DROPS: Bottles of 5 cc. with sterile dropper.



Provides comprehensive bactericidal action effective against virtually all bacteria likely to be found topically.

'NEOSPORIN'®

brand ANTIBIOTIC OINTMENT

OINTMENT: Tubes of $\frac{1}{2}$ and 1 oz. and tubes of $\frac{1}{8}$ oz. with ophthalmic tip.

OPHTHALMIC SOLUTION: Bottles of 10 cc. with sterile dropper.

NEW { **LOTION:** Plastic squeeze bottles of 20 cc.

POWDER: Shaker-top bottles of 10 Gm.



'POLYSPORIN'®

brand ANTIBIOTIC OINTMENT

Offers combined antibiotic action for treating conditions due to susceptible organisms amenable to local medication.

OINTMENT: Tubes of $\frac{1}{2}$ oz., 1 oz. and $\frac{1}{8}$ oz. (ophthalmic tip).



BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, N. Y.



... and one to grow on

A tiny tablet of REDISOL to stimulate the appetite — to help in the intake of food for growth.

REDISOL is crystalline vitamin B₁₂, an essential vitamin for growth and the fundamental metabolic processes.

Ideal for the growing child, the REDISOL tablet dissolves instantly on contact in the mouth, on food or in liquids.

Packaged in bottles hermetically sealed to keep the moisture out and to retain vitamin potency in 25 and 50 mcg. strengths, bottles of 36 and 100 — in 100 mcg. strength, bottles of 36, and in 250 mcg. strength, vials of 12.

Also available as a pleasant-tasting cherry-flavored elixir (5 mcg. per 5-cc. teaspoonful) and as REDISOL injectable, cyanocobalamin injection USP (30 and 100 mcg. per cc., 10-cc. vials and 1000 mcg. per cc. in 1, 5 and 10-cc. vials).

REDISOL[®]

cyanocobalamin, Crystalline Vitamin B₁₂



MERCK SHARP & DOHME
DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

REDISOL IS A TRADEMARK OF MERCK & CO., INC.

UNIQUE VITAMIN SUPPLEMENT

NEW **VIGRAN**

CHEWABLES

SQUIBB MULTIPLE VITAMIN SOFT TABLETS

fruit-punch flavored
tablets that will
actually
"melt in the mouth"



can be chewed like candy



can be crushed and sprinkled on
cereal or other food



can be dissolved in water, juice or milk



can be sucked and will dissolve like a lozenge



can be easily swallowed (small tablet size)

VIGRAN CHEWABLES *taste like candy*, but contain *no ingredients harmful to teeth*. Important, too, is that VIGRAN CHEWABLES *dissolve easily* in the mouth and *smell good*. These advantages will also appeal to your elderly patients. And VIGRAN CHEWABLES provide at least 125% of the minimum daily requirements for vitamins A, D, B₁, B₂, niacinamide and C, and significant amounts of other essential vitamins.

Each VIGRAN CHEWABLE tablet contains:

Vitamin A	5,000 U.S.P. units
Vitamin D	1,000 U.S.P. units
Vitamin C	75 mg.
Vitamin B ₁	3 mg.
Vitamin B ₂	3 mg.
Vitamin B ₆	2 mg.
Niacinamide	25 mg.
Calcium Pantothenate	3 mg.
Vitamin B ₁₂	5 mcg.

Available in Rx-size bottles of 30 and 90.

SQUIBB



Squibb Quality—
the Priceless Ingredient

*Vigran® is a Squibb trademark



running noses and open stuffed noses orally

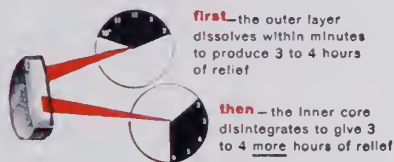
with TRIAMINIC, the oral nasal decongestant

- in nasal and paranasal congestion
- in sinusitis
- in postnasal drip
- in allergic reactions of the upper respiratory tract

safer and more effective than topical medication

- reaches *all* respiratory membranes systemically
- avoids "nose drop addiction"
- presents no problem of rebound congestion
- provides longer-lasting relief

Relief with Triaminic is prompt and prolonged because of this special timed-release action . . . beneficial effect starts in minutes, lasts for hours.



Each TRIAMINIC Tablet provides:

Phenylpropanolamine HCl . . . 50 mg.
Pheniramine maleate . . . 25 mg.
Pyrilamine maleate . . . 25 mg.

One-half of this formula is in the outer layer, the other half is in the core.

Dosage: One tablet in the morning, mid-afternoon and in the evening, if needed.

Triaminic®

Also available: For the occasional patient who requires only half dosage: timed-release TRIAMINIC JUVELETS. Each Juvelet is equivalent to $\frac{1}{2}$ of a Triaminic Tablet.

For those patients who prefer liquid medication: TRIAMINIC SYRUP. Each 5 ml. tsp. of this palatable syrup is equivalent to $\frac{1}{4}$ of a Triaminic Tablet.



it
started
as a
"cold"...

to prevent the sequelae
of u.r.i. ... and relieve the
symptom complex

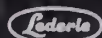
ACHROCIDIN®

Tetracycline-Antihistamine-Analgesic Compound Lederle

Pneumonitis, otitis, tonsillitis, adenitis, sinusitis or bronchitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.¹ To protect and relieve the "cold" patient... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN® Tetracycline (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP (lemon-lime flavored), caffeine-free.

1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933



LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Your difficult rheumatic patient...

on the job again

through effective relief and rehabilitation

For the patient who does not require steroids

PABALATE®

Reciprocally acting nonsteroid antirheumatics... more effective than salicylate alone.

In each enteric-coated tablet:

Sodium salicylate U.S.P. 0.3 Gm. (5 gr.)
Sodium para-aminobenzoate 0.3 Gm. (5 gr.)
Ascorbic acid 50.0 mg.

or for the patient who should avoid sodium

PABALATE® - Sodium Free

Pabalate, with sodium salts replaced by potassium salts.

In each enteric-coated tablet:

Potassium salicylate 0.3 Gm. (5 gr.)
Potassium para-aminobenzoate 0.3 Gm. (5 gr.)
Ascorbic acid 50.0 mg.

For the patient who requires steroids

PABALATE®-HC

(PABALATE WITH HYDROCORTISONE)

Comprehensive synergistic combination of steroid and nonsteroid antirheumatics... full hormone effects on low hormone dosage... satisfactory remission of rheumatic symptoms in 85% of patients tested.

In each enteric-coated tablet:

Hydrocortisone (alcohol) 2.5 mg.
Potassium salicylate 0.3 Gm.
Potassium para-aminobenzoate.. 0.3 Gm.
Ascorbic acid 50.0 mg.

PABALATE®  **PABALATE®-HC**

For steroid or non-steroid therapy: SAFE DEPENDABLE ECONOMICAL

A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA • Ethical Pharmaceuticals of Merit since 1878

R_x

Tao

PRONOUNCED TAY-O

(triactyleandamycin)

Capsules / Oral Suspension

* designed for
superior control of
common Gram-positive
infections



in the
patient:

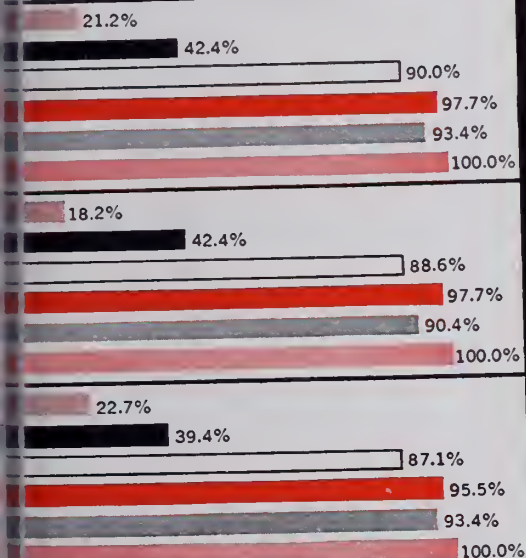
95% effective in published cases¹⁻⁸

Conditions treated	No. of Patients	Cured	Improved	Failure
ALL INFECTIONS	558	448	80	30
Respiratory infections	258	208	31	19
Pharyngitis and/or tonsillitis	65	58	5	2
Pneumonia	90	66	17	7
Infectious asthma	44	38	—	6
Otitis media	31	29	2	—
Other respiratory (bronchitis, bronchiolitis, bronchiectasis, pneumonitis, laryngotracheitis, strep throat)	28	17	7	4
Skin and soft tissue infections	230	191	38	1
Infected wounds, incisions and lacerations	41	33	8	—
Abscesses	51	43	8	—
Furunculosis	58	51	6	1
Acne, pustular	43	28	15	—
Pyoderma	19	19	—	—
Other skin and soft tissue (infected burns, cellulitis, impetigo, ulcers, others)	18	17	1	—
Genitourinary infections	28	19	3	6
Acute pyelitis and cystitis	10	8	2	—
Urethritis with gonorrhea or cystitis	8	8	—	—
Pyelonephritis	4	1	—	3
Salpingitis	5	1	1	3
Pelvic Inflammation with endometriosis	1	1	—	—
Miscellaneous (adenitis, enteritis, enterocolitis, subacute bacterial endocarditis, fever, hematoma, staphylococcus carriers, osteomyelitis, tenosynovitis, septic arthritis, acute bursitis, peri-arthritis)	42	30	8	4

the laboratory:

90% effective
ant resistant staph

COMPARATIVE TESTS BY THREE METHODS
(TUBE DILUTION, CYLINDER PLATE)
ON STAPHYLOCOCCI*



Antibiotic A 2-10 units
Antibiotic B 5-30 mcg.
Antibiotic C 5-30 mcg.
Antibiotic D 2-15 mcg.
Antibiotic E 5-30 mcg.
Percentage of organisms inhibited by the range of concentrations listed for each antibiotic.

Other Tao advantages:

Rapidly absorbed—stable in gastric acid,⁷ TAO needs no retarding protective coating

Low in toxicity—freedom from side effects in 96% of patients treated; cessation of therapy is rarely required

Highly palatable—“practically tasteless”⁷ active ingredient in a pleasant cherry-flavored medium.

Dosage and Administration: Dosage varies according to the severity of the infection. For adults, the average dose is 250 mg. q.i.d.; to 500 mg. q.i.d. in more severe infections. For children 8 months to 8 years, a daily dose of approximately 30 mg./Kg. body weight in divided doses has been found effective. Since TAO is therapeutically stable in gastric acid, it may be administered without regard to meals.

Supplied: TAO Capsules—250 mg. and 125 mg., bottles of 60. TAO for Oral Suspension—1.5 Gm., 125 mg. per teaspoonful (5 cc.) when reconstituted; unusually palatable cherry flavor; 2 oz. bottle.

References: 1. Koch, R., and Asay, L. D.: J. Pediat., in press. 2. Leming, B. H., Jr., et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 3. Mellman, et al.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 4. Olansky, S., and McCormick, G. E., Jr.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 5. Shubin, H., et al.: Antibiotics Annual 1957-1958, New York, N. Y., Medical Encyclopedia, Inc., 1958, p. 679. 6. Isenberg, H., and Karelitz, S.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 7. Wennersten, J. R.: Antibiotic Med. & Clin. Therapy 5:527 (Aug.) 1958. 8. Kaplan, M. A., and Goldin, M.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958. 9. Truant, J. P.: Paper presented at the Symposium on Antibiotics, Washington, D. C., Oct. 15-17, 1958.

TAO dosage forms— for specific clinical situations

TAO Pediatric Drops

For children—flavorful, easy to administer.

Supplied: When reconstituted, 100 mg. per cc. Special calibrated droppers—5 drops (approx. 25 mg.) and 10 drops (approx. 50 mg.). 10 cc. bottle.

TAO-AC (TAO analgesic, antihistaminic compound)

To eradicate pain and physical discomfort in respiratory disorders.

Supplied: In bottles of 36 capsules.

TAOMID* (TAO with triple sulfas)

For dual control of Gram-positive and Gram-negative infections.

Supplied: Tablets, bottles of 60. Oral Suspension, bottles of 60 cc.

Intramuscular or Intravenous

For direct action—in clinical emergencies.

Supplied: In 10 cc. vials.

*TRADEMARK



New York 17, N.Y.
Division, Chas. Pfizer & Co., Inc.
Science for the World's Well-Being

**CHRONIC
BRONCHITIS
or
INFECTIOUS
DERMATITIS?**



ACCELERATE THE
RECOVERY
PROCESS WITH

VARIDASE **BUCCAL** TABLETS

STREPTOKINASE-STREPTODORNASE LEDERLE

Reg. U. S. Pat. Off.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY,
Pearl River, New York

in very special cases
a very superior brandy...
specify

HENNESSY

COGNAC BRANDY

84 Proof | Schieffelin & Co., New York



PROTECTION AGAINST LOSS OF IN-
COME FROM ACCIDENTS & SICKNESS
AS WELL AS HOSPITAL EXPENSE
BENEFITS FOR YOU AND ALL YOUR
ELIGIBLE DEPENDENTS.

ALL
PREMIUMS
COME FROM

PHYSICIANS
SURGEONS
DENTISTS

ALL
BENEFITS
GO TO

PHYSICIANS CASUALTY & HEALTH
ASSOCIATIONS

OMAHA 31, NEBRASKA

Since 1902

Handsome Professional Appointment
Book sent to you FREE upon request.

in all
diarrheas

CREMOMYCIN[®]

SUCCINYLSULFATHIAZOLE—NEOMYCIN SUSPENSION WITH PECTIN & KAOLIN

EXPERIENCE

MORE THAN
16 MILLION DOSES
ADMINISTERED WITH
SAFETY AND EFFICACY.

regardless of
etiology



MERCK SHARP & DOHME

DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.

CREMOMYCIN is a trademark of Merck & Co., Inc.

SPONTIN IN SERIOUS

*A Special Report from Abbott
to the Medical Profession
on a Year's Clinical Experience
with SPONTIN®
(Ristocetin, Abbott)*

In a Spanish province, a patient lay dying of endocarditis. A short wave radio appeal for SPONTIN was intercepted by a Baltimore physician. The antibiotic was immediately flown to this faraway land, and 10 days later—the patient had recovered.

In Chicago, a moribund patient had been administered 18 combinations of 10 different antibiotics without success. Involved was a hospital-acquired staphylococcal pneumonia—plus complications. SPONTIN was substituted and the patient lived.

A five-week-old infant was critically ill with staphylococcal enteritis. Treatment failures included erythromycin and chloramphenicol. Three days of SPONTIN saved this life. The list is long and impressive and it grows daily.

Recently, a study¹ was made of serious and resistant staphylococcal infections reported to Abbott Laboratories. Many of these cases had serious complicating diseases—many were moribund, or almost so, at the time SPONTIN was started. Yet, out of the 160 staphylococcal cases studied, 93 were reported cured and 38 improved after the administration of SPONTIN.

Out of the total of 251 patients with severe infections caused by gram-positive or mixed organisms, 149 were reported cured and 53 others improved. And the record for pediatric practice was every bit as good.

Additionally, SPONTIN continues to exhibit exceptional bactericidal activity against coccal infections². And, according to another study, SPONTIN provides successful short-term therapy in endocarditis³.

Only last October, at the Antibiotics Symposium in Washington, D. C., a panel of six leading antibiotic experts placed SPONTIN at the top of all other commercially-available antibiotics for treating serious staphylococcal infections. Also, six papers—all dealing with the effectiveness of ristocetin (SPONTIN®) in treating staphylococcal infections—were presented at the Symposium.

One of the most encouraging aspects of the year's literature on SPONTIN is the increasing testimony to its safety. As the months have passed and cases have accumulated by the hundreds, it has become apparent that careful attention to dosage recommendations has practically eliminated toxicity and side effects as serious obstacles to therapy. Also, recent improvements have been made in the manufacture of SPONTIN; the drug is now made from pure crystals.

A recent report⁴ in the Journal of the American Medical Association concluded, "It is our opinion that, if proper precautions are observed, ristocetin is a [well tolerated] and potent agent to employ in the treatment of staphylococcal infections." And in another study, after successfully treating 28 patients with a variety of staphylococcal infections, the authors reported⁵, "No serious complications were noted."

Few more dramatic records have been written in such a short space of time. SPONTIN has proved itself to be a good answer, perhaps the best answer at present, to the resistant staphylococcal problem—and of real value in other serious coccal infections. It may well be your answer when you're confronted with a serious infection.

Abbott

STAPHYLOCOCCAL INFECTIONS

Excerpts from Reports Read at the Antibiotics Symposium

Spontin In Treating Severe Respiratory Infections

—"In 13 of 20 patients the results were excellent, with clinical response being evident within one to four days after institution of therapy. In three additional patients, there was some degree of improvement in pneumonic processes superimposed on tuberculosis in two cases and on pulmonary neoplasm in one. In all other cases, serious antecedent pathology undoubtedly influenced the negative or equivocal response to ristocetin therapy.⁶"

Spontin In Treating Staphylococcal Infections—After successfully treating 28 patients, the authors wrote, "Ristocetin or Spontin has proved to be bactericidal and bacteriostatic, particularly for the *Staphylococcus aureus*, which is often resistant to many other antibiotics.⁵"

Spontin In Treating Seven Difficult Cases—"Ristocetin has produced excellent results in eradicating, mitigating or preventing infection in seven selected difficult cases. Six of the seven cases involved *Staphylococcus aureus* which did not respond to chemotherapy with other antibiotics.⁷"

Spontin Blood Levels In Children—"Ristocetin was administered as a single intravenous injection of 12.5 milligrams per kilogram. This resulted in serum levels ranging from 1.3 to 10.6 mcg. after two hours with a gradual fall to a level of 0.7 mcg. per cubic centimeter or less after 12 hours.⁸"

Spontin In Treating Staphylococcal Pneumonia

—"Ristocetin was used in the treatment of 24 patients with staphylococcal pneumonia, 17 of whom had failed to respond to previously administered antibiotics. Complete clearing of pneumonitis was obtained in 16 patients and significant improvement occurred in two others. Two patients died of pneumonia; four others succumbed to other lethal diseases.⁹"

Spontin In Treating Children and Adults—"Ristocetin completely controlled severe staphylococcal infections in 11 adults and six children who received adequate therapy.¹⁰"

1. Totals represent published reports and personal communications to Abbott Laboratories.
2. Sixth Annual Symposium on Antibiotics, Washington, D. C., Oct. 15, 16, 17, 1958.
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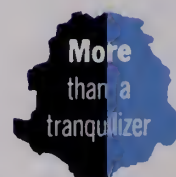
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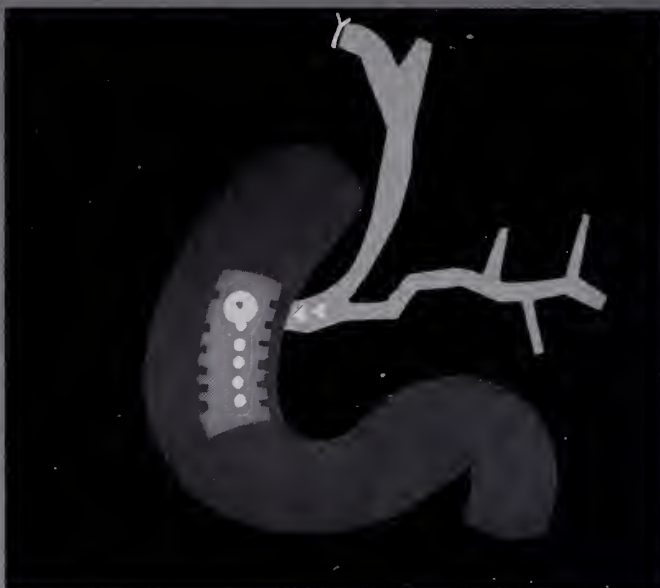
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THE PRESENT STATUS OF INDUCTION OF LABOR*

HARRY FIELDS, M.D.**

Successful termination of pregnancy by induction of labor is an extremely valuable procedure in obstetrical practice. Methods are classified as medical or surgical. The former includes the use of purgatives, enemas and drugs such as quinine and calcium as well as hormones (estrogen, pituitary extract). Although these enjoyed periods of popularity, obstetricians found the former to be risky and the latter to be undependable, and their use has been discontinued because of undesirable side effects or ineffective action.

Recently, induction of labor with oxytocin (either in the form of Pitocin or Syntocinon) has been found to be dependable. The latter drug is a synthetic form of oxytocin which is free of pressor substance. The presently acceptable mode of administration is by intravenous injection of a dilute solution (10 units in 1000 c.c. 5% glucose in water) given at a slow rate (5 drops per minute, initially). The rate is then determined by the uterine response.

Surgical induction of labor includes amniotomy, or rupture of the membranes, forewaters or hind waters, with or without preliminary stripping, or the use of intrauterine packing, bougies or bags.

Of these techniques, the safest and practically the only one used today is amniotomy. The introduction of foreign bodies into the uterus as a means of induction has almost been abandoned in this country. Of all the methods of induction practiced throughout the years, amniotomy has

emerged as the most reliable, either alone or in combination with oxytocin.

In 1932, Slemons¹ reported the results of amniotomy and the use of pituitary extract in addition if labor did not start promptly. The latter was administered intranasally. Slemons concluded that dilatation was more important than effacement, and advised that in order to prevent prolapse of the cord, the head must not be dislodged at the time of amniotomy. One stillborn occurred in this series of 132 patients and this was considered too high an incidence.

In 1936, Plass and Seibert² reported their experiences with the induction of labor by premature rupture of the membranes in 486 multipara and 195 nullipara. Contraindications to induction included contracted pelvis and abnormal presentation. Prolapse of the cord occurred in 5 instances at the time of amniotomy and two of these infants were lost. Maternal morbidity due mainly to prolongation of the latent period, was 24.1%. No maternal deaths occurred.

Following reports such as these, amniotomy with or without castor oil became the popular method of induction. If labor did not start within several hours, hypodermic injections of pituitrin were used.

Objections to this technique soon became apparent. A frequent prolonged latent period between amniotomy and onset of labor resulted in an increased morbidity rate, and some serious infections occurred. Following the injection of pituitary extract, spasm of the uterus occurred occasionally, with resultant fetal death, placental abruption or even rupture of the uterus. Due to the pres-

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sor substance in the injected material, hypertensive states not infrequently followed. For these reasons, elective induction lost popularity and when termination of pregnancy was medically or obstetrically indicated, Caesarean section was the method of choice.

In recent years, the following developments have renewed interest in induction of labor: Antibacterial agents have proven their ability to prevent or to cope with the infections incident to parturition. Oxytocin is now available in a form that is well standardized and free of pressor substance. Pitocin (Parke-Davis) is practically pressor-free and Syntocinon (Sandoz), a synthetic preparation, is completely free of pressor effect. Finally, the demonstration that oxytocin can be administered intravenously in dilute solution has rendered this modality safe and effective, provided the proper precautions are observed. These new advances have increased the popularity of induction of labor to such an extent that it is being practiced more today than ever before throughout this country.

Induction of labor is either elective or indicated by medical or obstetrical developments. Although purely elective inductions have no medical indication to justify them, other reasons that warrant them are: 1) to prevent a possible anesthesia accident; 2) to prevent uncontrolled delivery while enroute to the hospital, in the event of: previous rapid labors, great distance from the hospital, or lack of immediate transportation to the hospital; 3) to allay the fear of going into labor while alone; 4) to permit better supervision and care during labor; 5) to permit care of personal and domestic problems in advance; 6) to assure the presence of the obstetrician throughout labor and delivery and 7) to help maintain more constant hospital occupancy.

Indicated induction of labor is currently practiced more frequently and with more justification than in the past. There are certain medical and obstetrical complications which make termination of pregnancy imperative. Induction of labor is usually preferable to Caesarean section and is performed whenever feasible. The list of indi-

cations is gradually increasing. At present, the accepted indications are some instances of: 1) toxemia; 2) maternal diabetes; 3) erythroblastosis; 4) habitual death of the fetus in the third trimester; 5) marginal placental praevia; 6) fetal abnormalities incompatible with life; 7) excessive size of the fetus; 8) ruptured membranes at or near term; 9) progressive medical or urologic infections in late pregnancy; 10) history of previous inert labors.

Questionable indications include: 1) antenatal death of fetus; 2) postmaturity or prolonged pregnancy; 3) placental abruption; 4) questionable cephalo-pelvic disproportion; 5) previous postpartum hemorrhage; 6) cardiac disease and 7) pulmonary tuberculosis.

Contraindications to the induction of labor are: 1) contracted pelvis; 2) high multiparity; 3) previous Caesarean section, myomectomy or hysterotomy; 4) breech presentation with a large fetus; 5) multiple pregnancies with over distention of the uterus; 6) abnormal presentation; 7) maternal exhaustion; 8) poor general condition of the patient; 9) poor response to oxytocin; 10) inability of the physician to be present.

Many studies are in progress to evaluate the validity and safety of many of these indications and contraindications. Caldeyro-Barcia³ and his associates in Montevideo have demonstrated that intravenous oxytocin in dilute solution reproduces uterine contractions that cannot be distinguished from those of spontaneous labor. This may ultimately lead to the concept that induction of labor is indicated in any condition in which spontaneous labor is justified. Much more study and research is necessary to establish this.

The question as to whether induction of labor is a completely safe procedure for both mother and infant is still controversial. In recent years many reports have appeared in the literature with generally satisfactory results. In some reports, mention is made of occasional complications such as: postpartum hemorrhage, abruptio placenta, prolapsed cord, intrapartum fetal death and ruptured uterus. These complications can be

minimized or prevented by rigid attention to the proper selection of patients and the strictest adherence to the correct technique.

The selection of suitable patients for elective inductions is most important and depends on the following considerations. The patients must be 37 or more weeks pregnant, by menstrual date and size of the baby. The presenting part must be dipping well into the pelvis, but not necessarily engaged. The cervix should be effaced at least 50%, dilated at least 2 cm. and not posterior. The patient must be psychologically suitable, with no fear of, or objection to, elective induction.

Selection of suitable candidates for indicated induction of labor depends on a medical or obstetrical complication necessitating the termination of pregnancy. This indication must not be too urgent, since induction requires varying lengths of time to complete. The amount of time depends on the "ripeness" of the cervix and the position of the presenting part. If the cervix is not ripe, it may be ripened by administering oxytocin in dilute solution intravenously for several days, 8 hours per day. However, this is only feasible if immediate delivery is not mandatory. The condition of the mother and infant must be such as to allow for some delay before delivery. After the cervix has been sufficiently "ripened", the indicated induction may then be continued according to the technique of an elective induction.

In an attempt to develop a safe technique for induction of labor, a study has been under way at the Hospital of the University of Pennsylvania. From January 1, 1950 until January 1, 1958, 3321 inductions have been performed.

Following selection of the proper candidate, the technique used in this study of induction of labor consists of the following steps: The patient is admitted the preceding evening for preparation and evaluation. Physical examination is done by the house physician and all indicated laboratory studies conducted. A sedative, usually secobarbital, gr. 3, is given for the purpose of giving the patient a good night's sleep, and she receives nothing by mouth after midnight, for anesthetic reasons.

The following morning the patient is admitted to the labor floor when the nurses can furnish adequate care. The number of inductions each day is limited in accordance with the available assistance to furnish constant care of the patient. An abdominal, and a rectal or vaginal examination, is done on the labor floor to determine that the preceding criteria are in order.

Oxytocin (usually 10 units in 1000 c.c. of 5% glucose in water) is prepared. The vein is used that will accommodate a needle satisfactorily, and the intravenous is started very slowly (6-8 drops per minute); the uterus is palpated constantly for contractions or spasms, fetal heart sounds are checked almost constantly; after the contractions are established, the rate of oxytocin is determined by the strength and frequency of these contractions. The usual rate ranges between 15-25 drops per minute. Constant attendance by an experienced person is necessary while the oxytocin is running. When one is not available the oxytocin is discontinued. Sedation is given upon order of the physician. Caudal anesthesia may be started early to reduce the need for sedation. Following the onset of labor, amniotomy is done as soon as contractions are established and the cervix dilated sufficiently to render the procedure mechanically easy. Under sterile precautions in bed, a finger is introduced through the cervix, the membranes are stripped and then ruptured with a half of a single-tooth tenaculum. To prevent prolapse of the cord or displacement of the presenting part, the patient is kept on her back, pressure on the fundus of the uterus and the fluid is allowed to escape slowly until the uterine contractions fix the presenting part in the pelvis.

The rate of oxytocin administration is then reduced. If labor becomes violent, it is stopped immediately. Generally, the oxytocin is continued throughout labor and delivery and for several hours postpartum. Should the labor continue longer than 12 hours, penicillin is administered. The oxytocin drip should not be allowed to run more than 12 hours continuously. After this length of time, if delivery is not imminent, it should be stopped and the patient should

be given a rest for at least 8 hours. The oxytocin may then be resumed.

The results of the 3321 inductions carried out according to the above technique have been highly satisfactory. The incidence of induction of labor during this period of time was 16.3%. Of these, 2932 were elective and 389 obstetrically or medically indicated. The maternal mortality was zero. The gross intrapartum and neonatal mortality was 0.5% and the corrected infant mortality was 0.1%. Correction was made for conditions not related to induction of labor.

Complications encountered in carrying out these inductions were uterine spasm, fetal distress, prolapsed cord, postpartum hemorrhage, premature separation of the placenta, and in elective inductions, the delivery of infants weighing less than 2500 grams.

In 2932 elective inductions uterine spasm occurred on 98 (3.4%) occasions. These spasms were usually noted when the oxytocin was first administered. Adjusting the rate of flow always corrected this, and no serious complications resulted. Fetal distress was diagnosed in 63 (2.1%) patients. This frequently occurred in association with uterine spasm and relief of the spasm caused the disappearance of the signs of fetal distress. Treatment consisted of oxygen administration to the patient and raising the foot of the bed. Occasionally a tight cord around the fetal neck was the etiologic factor and the fetal distress occurred toward the end of labor. In these situations prompt vaginal delivery was the solution to the problem. If fetal distress persists and vaginal delivery is not imminent or safe, Caesarean section should be performed promptly. This was necessary in one instance in this series.

Prolapsed cord occurred in 4 instances and Caesarean section was the treatment in 2 of these. Care in the technique of amniotomy can usually prevent this complication.

Although postpartum hemorrhage was increased in the early part of this study, this has been no problem recently. In the first 4 years (1950-1953), 27 (2.2%) hemor-

rhages occurred, and in the second period (1954-1957), there were only 18 (1.0%) postpartum hemorrhages.

Premature separation of the placenta occurred more frequently when caudal analgesia was used. This separation usually occurred towards the end of labor as the cervix was becoming fully dilated, and rarely was extensive enough to be a serious complication. If the bleeding is not too profuse, the fetal heart tones are not affected, and labor progresses regularly, normal vaginal delivery may be anticipated. In one instance the separation occurred early in labor and was considered severe enough to necessitate a Caesarean section. Sixty-two (2.1%) infants of the patients electively induced weighed less than 2500 grams. This can and should be avoided in elective induction of labor by careful attention to the menstrual history, expected date of confinement, size and maturity of the infant determined by abdominal or x-ray examination, and the signs of "ripeness" for induction.

In indicated inductions the above complications, except small infants, are more serious and may occur more frequently because of the unfavorable nature of the patients, and also the medical or obstetrical abnormalities necessitating the induction.

In all inductions of labor careful selection of candidates and strict adherence to technique will greatly reduce the number of these complications, or reduce their severity to a degree that will not result in serious tragedy for mother or infant.

From this study it is concluded that these complications are not a contraindication to induction of labor when performed properly, however, in order to obtain these results, rigid precautions were observed throughout the entire procedure. If it is not possible to observe these precautions, the induction of labor should not be attempted. If for medical obstetrical reasons, the pregnancy must be terminated, a Caesarean section would be safer for mother and infant than a poorly conducted induction of labor.

The important considerations in assuring the success and safety of an elective induc-

tion are: 1) suitable selection of the patient as to the ripeness of the cervix and maturity of the infant; 2) constant attendance by an experienced person as long as the oxytocin is running; 3) experience in the technique of amniotomy; 4) adequate facilities for coping with any of the potential complications; and 5) in indicated inductions, a medical or obstetrical condition that requires termination of pregnancy with no great urgency. When these criteria are met, and adherence to technique is strict, induction of labor may be practiced with confidence for the successful delivery of the infant and with complete safety to the mother.

More work must be done in this field before the induction of labor can be freely recommended for general use. The personnel and technical requirements are such that it is doubtful that this procedure will ever become sufficiently innocuous to permit its widespread use, except in the hands of experienced obstetricians who are practicing in well equipped hospitals with completely adequate personnel to carry out the rigid technical requirements.

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TREATMENT OF THE WHOLE MAN*

PRESIDENT BAKER: It now is my pleasure and my privilege to call upon the panel.

There has always been interest, in religion and medicine. Some months ago one of our doctors suggested that he would like to hear a panel discussion on the problems of religion and medicine; the physician and the clergyman as partners in the treatment of the whole man. Therefore, we have asked some men to come here and give us their viewpoints on the treatment of the whole man.

It is my pleasure to introduce Dr. Kenneth Appel, Professor of Psychiatry, University of Pennsylvania, School of Medicine in Philadelphia; Reverend Robert P. Varley, of St. Peter's Church, Salisbury, Maryland, who is Secretary of the Diocese of Easton; and my good friend and advisor, Dr. Elliott from Laurel. We will open the panel by having Dr. Appel speak.

DR. KENNETH APPEL: Dr. Baker, Dr. McNinch, Dr. Beatty:

I am honored to be asked to talk here tonight on a subject which interests me more and more. I suppose the reason is because of the increasing problems of our society. In addition to the million deaths from cardiovascular disease and the quarter million deaths from cancer yearly, one of the most serious illnesses of our society is caused from nervous and mental illness.

Nervous and mental illness involves hospitalization of a million people per year. It involves twelve million people in the course of the lifetime of an individual. It means that we are going to have to carry a non-productive population in the course of one generation larger than the populations of Switzerland, or Ireland; equal to Holland, Norway and Sweden. It is a great problem. It is not just a medical problem; it is not just a psychiatric problem. It is a social and economic problem.

It would not be right if I talked in Wilmington and did not speak of the tremendous work that Dr. Tarumianz has done in this country to improve the care of the mentally ill. I think the cost of care in mental hospitals in the United States is under \$5.00 a day. I can not say how much under \$5.00 a day. The ward costs at the University Hospital at the present time are \$18.00 a day. So there are people who are getting much better care than the mental patients who are a difficult economic and medical burden to all of us.

What does this have to do with psychiatry? What does it have to do with religion? Well, there are 100,000,000 people in this country who are alive with churches. There are more clergy than there are physicians. There are 10,000 psychiatrists and about 5,000 outside of public hospitals. The 5,000 outside of public hospitals are reduced also by 1,000 or 1,500 psychoanalysts. The manpower of psychiatry for 170,000,000 people is small. I hope that accounts for some of the disappointment in psychiatry at times.

I think that the clergy, whose number is over 200,000, can help in psychological and social problems that overlap medical and psychiatric problems. I would like to pass around a bibliography so that you can look at books that have been helpful to me in this field. There are references to Protestant approaches, to Catholic approaches, and one very good book on the Jewish approach to psychiatry and religion, or psychiatry and the whole man.

When we hear physicians talking about religion and hear clergy talking about medicine, there is likely to be some confusion.

We have words, symbols and concepts that are difficult to understand, but I think they indicate that the spirit is there, the spirit of search, the spirit of co-operation, the spirit of dedication to the elimination of illness.

* Panel presented October 1, 1958 at the 169th Annual Meeting, Medical Society of Delaware, Wilmington.

When one has pain and discomfort in the body he seeks counsel and treatment of the doctor or surgeon. When pain is in the emotions and feelings he discusses problems often first with the clergyman, and with the family doctor and sometimes he gets to the psychiatrist. A large percentage of man's illnesses derives not from germs or accidents or material causes but are due to the drainage of diseased feelings into the body. We can become ill from frustration, exhaustion, insecurity, loneliness, hostility or guilt, just as we can from medical conditions. Therefor, it is important to try to understand and teach understanding of the whole man.

Psychiatry is the study of emotional and mental disturbances and illness, their treatment and prevention. Religion, as I see it, is one system of devotions, reverences, allegiances and practices, whether avowed or implicit, conscious or unconscious. It is concerned with the development of the spiritual aspects of the personality and the enrichment of personal and social life. Ideally it should help the tolerance and endurance of pain and suffering, the maintenance of health and the prevention of illness. Standards and values, the need to belong to something, the need for togetherness, the need for feeling worthwhile and of value, the desire to be cared for—all of these needs are important in human life. They are the concerns of psychiatry and are related to religion as well.

Religion has many aspects and a varied history. Different parts of the personality are given importance by different persons and faiths. Reason, belief, faith, ritual and church membership are emphasized by different leaders as essential aspects of religion. With some the intellect is stressed and they require explanations, demonstrations, reasons and logic, in part following St. Thomas. Others emphasize emotion, belief, conviction, dogma. In these they find security. On these they are dependent. And so Schleiermacher, the German philosopher, believed a feeling of dependency was the essence of religion. For Pascal, hope was a cornerstone. William James wrote of the will to believe. St. Augustine stressed the

will rather than the intellect. And Professor G. F. Moore of Harvard thought that the essence of religion was the conservation of social values. Santayana, the philosopher, believed in the beauty of religion. Others emphasized ritual, ceremony, sacraments. Rules have been considered important for some. Group belonging and togetherness have been emphasized by others. Protestantism finds mediation unnecessary and has stressed the individual's direct access to God.

Catholicism emphasizes help from the group, from authority, from tradition, from history. Judaism exalts social justice and righteousness.

The scientists and philosophers have by no means dispensed with religion, as so often is thought to be the case. Einstein writes of all before the great unknown and reverence for the harmony and beauty that exists in the world of nature. Bertrand Russell, though in his "Free Man's Worship" disassociated himself from traditional religion, recently published a book called



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"Why I Am Not A Christian," which most people would find essentially religious.

It is stated in the Talmud that even if a man denies God and yet lives according to Him, that he is acceptable to God.

Many religious psychiatrists feel that Freud, notwithstanding his writings about the neurotic obsessiveness and religious beliefs and practices, was religious in his sincerity, integrity and persistence of his devotion and research. The existentialists bring psychiatry, religion and philosophy together.

People cannot rely on reason and science and the inevitability of progress to bring about security and relief from fear and anxiety. The self-assurance of Victorian thinking and Newtonian mechanics has been shaken by quantum mechanics and by the nuclear astro and mathematical physicists. The present was called the age of anxiety long before "Sputnik" appeared. The existentialists speak of anxiety as being involved in creativity and in the realization of selfhood. They speak of the inevitability of anxiety.

If this is true, we should say that nervousness, anxiety and conflict are normal, and that it is not the job of psychiatry or religion to remove all anxiety, nervousness, conflict, or difference. If there were not anxiety and conflict and difference and dissatisfaction, a great deal of what is creative in life, literature, philanthropy, social reorganization and science would not exist. Anxiety is the concomitant of freedom and the development of individuality. There are devotions, reverences, thoughts, principles of life, action and behavior which contribute to effectiveness and health. Religion, beneath its many variations, consists of constructive devotions and practices. There are forces at work in patients that are not determined by what we see, touch, weigh, smell or hear. And the general practitioners knew that long before there was a word called "psychiatry."

I cannot help but feel, as I get into this personal relationship between doctor and patient, a certain sense of gratitude and

sorrow which is personal, because I was taught by a man who had one of greatest abilities to size up things quickly and to influence people by a few words. He was Edward Strecker. He could move into a sick room, or visit a distressed family and something happened that could not be put into words. It certainly could not be weighed and measured. The gratitude that I feel was for the privilege of being so many years with a person who had this tremendous ability to shoot through reason, rationality and artificiality to the basic human elements and touch something, if there was something touchable, in an individual to make them struggle toward health and often regain health. The sorrow is that he is alone in a hospital, very ill, and probably will not recover.

Some people seem to get well because of relationships with other human beings, or under the influence of ideals or from devotion to causes. Such relationships are beyond human values, and involve a dedication to the constructive forces in life. Faith, hope, love and justice are such forces. They have been manifested in the medical profession at its best and are related to religion. The doctor who engages in an active, tireless search for healing his patients is exemplifying these constructive forces, and the patient identifies himself with him and becomes inspired to join the search.

Inspiration and aspiration promote health. These are factors which cannot and have not been neglected in medicine. A devoted and dedicated physician or priest is able to tap and mobilize resources for growth and life and health in the individual. Psychiatry has been related to religion, both historically and ideologically.

There has been a growing realization that the fields of religion and psychiatry have a common concern. Evidence of this appears in many organizations that are bringing religion and psychiatry into closer relationship.

Psychotherapy should not be an exercise of intellectual understanding only but an experience of growth, hence a living relationship. This process of reorganization

which is called psychotherapy does not always take place consciously. Much of it takes place automatically and unconsciously. New experiences are needed to change the balance of the destructive exaggerations, the fear, the anger, resentment and guilt, to oppose previous harmful experiences. New experience is often indicated more often than drugs, tranquilizers notwithstanding.

Such corrective experience is psychotherapy. It is the influence of one human being on another. It is not just discussion, explanation, or the development of insight. It is not merely ventilation or emotional release. It is often identification with a constructive, experimental approach on the part of the physician. The patient can identify himself with this sympathetic prospecting of the physician. This process of identification is very important in the relationship which we call psychotherapy.

The successful physician or psychiatrist has always recognized the needs of the patient. These needs are for new experience, for experience beyond the kind which has led to the development of neuroses or psychoses, for some sort of security. And how does one get security? He can not get complete security. No one can. But he can get security in a relationship with another human being, the relationship of respect and recognition, and the search for understanding and solutions which takes place in psychotherapy.

Help comes from the healing value of the interest of a professionally trained person to his patient. Security comes from the contact of an understanding person. Relief comes from talking things out, and unbelievable resources develop ultimately through the search for solutions. The search is the important thing, not necessarily that an individual, the psychiatrist, or a clergyman has the answer. The search in sharing a contact and relationship with another human being is the most important thing in helping people in trouble with the illnesses we think of as psychiatric. Goethe in *Faust* speaks of the search, the search for solution, the search for satisfaction, the search for ultimates this is the important thing. A

patient, sympathetic, understanding search in co-operation with another human being is the basic element of therapy, and I think there is an area where great co-operation can take place with the clergy.

I have read several points from a book by a clergyman called "You Can Be Healed." These are true in my experience: First, realize that self-knowledge is a sign of intelligence; don't be afraid to learn about yourself; talk over your problems, faults, weaknesses, virtues with an understanding friend, physician or clergyman. Second, bring an emotional understanding into your life. To know why is not enough. You must feel what you are and what you are striving for. Third, remember that the capacity to learn has no age limits. Fourth, dig in your past and search for those moments where your development might have been arrested, even by illness. Resolve immature fixations and try to develop adult ways. Nourish your talents and capacities. Remember that every day can begin a new, happier life. You don't have to wait until tomorrow.

Dr. Edward Everitt Hale suggested four mottos for daily living which are important for all of us, not only people in this overlapping area: Look up and not down. Look forward and not back. Look out and not in. And lend a hand. It is surprising how lending a hand, even for sick people, develops strength, confidence and resourcefulness which is often of help.

There is a part of a poem here that I would like to end with. It is called "Flowers of Marsh and Stream," and these few lines come to mind:

"Good marshland days of windy skies
Flowers, sun and darting dragon flies
To store and fortify the mind
Against such ills as one may find,
The ills that one may find, time fleeting,
ing, loss of friends, death and age."

This is the area in which psychiatry, medicine and religion can unite to develop things in people that will help them fortify the mind against the ills that come in life which all of us must face.

A. T. V. Smith has written a book on "Life Without Fear." He is a philosopher

and says, "What do you find when you knock at your own door, the door of your own mind and you are in trouble? What can you summon? What do you have to summon?"

That is a very important thing. The fortification of the mind is something that we can get not only from psychiatrists but from physicians, clergy, literature and friends. And those are things which are helpful when we meet the catastrophes and stresses of life. Psychiatry essentially deals with stress reactions, the reactions of the organism both psychologically and physiologically to stress.

Thank you.

PRESIDENT BAKER: Thank you very much, Dr. Appel.

We will now hear from the theologian, Reverend Robert P. Varley.

REVEREND VARLEY: to Dr. Baker,

I wish to express my gratitude for asking me here tonight, Dr. McNinch, Dr. Beatty and also to Dr. Elliott, and ultimately to my friend, and a man at whose feet I am privileged to sit almost weekly at the University, Dr. Appel. I knew when he was to be first on the program that mine would be a difficult job, and as he spoke, first page 3 went out, then page 5 went, page 6 did not have much left on it. So I will give you what is left.

A clergyman begins everything with a text. A text is something that is given to announce the beginning of a sermon, from which the clergyman departs and which has nothing to do with what he ultimately says anyway. So if my words happen to have a text tonight, they come from the Greek philosopher Plato. In the era before Christ Plato wrote, "This is the great era of our day in the treatment of the human body, that the physicians separate the soul from the body." Remember that Plato, a philosopher of the pre-Christian era, wrote these words. And this quotation, taken from the archaic past, has a remarkably contemporary sound.

This is the great era of our day in the treatment of the human body that the phy-

sicians separate the soul from the body. The process of separation, however, through the advent of psychiatry and psychology has been to a degree reversed. Writings, such as those appearing in the *Psychosomatic Journal*, and textbooks, such as those by Drs. Weiss and English, indicate not only a reversal of this heresy but also demonstrate a positive effort toward an understanding of the individual being, the individual person, looking upon him as a unity and an entity rather than a bifurcated mechanism.

The physician of physical medicine is not alone in this unnatural separation. Religious thinkers down through the history of religion have played a major role in structuring the concept that man is a duality rather than a unity.

My purpose here tonight is not to trace dualism from its origin in Greek philosophy down through medieval times, the reformation to the present. Rather, I am concerned with the dilemma that results from this unnatural separation of man's body from his soul, a dilemma which has come down through history, caused confusion and suffering among those in need and has structured only consternation in those who sought to help.

I admit that it is not sufficient to assent to the proposition that man is composed of things material and things spiritual. The basic problems of human life do not lie in the region of the intellect. Dr. Appel has very carefully pointed this out. In reality the most pressing human problems rest in the area of our personal needs, our emotional relationships, and they concern our basic satisfactions. This is the fortification of which Dr. Appel has spoken. An individual who is weighed down beneath the pressing burdens of human anxiety, frustration and futility will seek help. He has a need, a basic human need, for help and he turns to those from whom he recognizes as equipped to help him lift the inexorable burden and return him to a productive normalcy.

Recent trends in our own society have exerted undue pressures upon us. We seek only to fulfill our human destiny in a me-

chanized culture, but our culture has superimposed these trends, forces and pressures upon us.

Wars and rumors of wars, depressions and recessions, and the ever-changing pattern of the family constellation have wrecked havoc human emotions. Signs are prevalent around us. We cannot ignore the frightening symptoms which speak all too audibly.

Your President tonight spoke of the problem of the aged. Geriatrics is also a threatening thought. Fear, futility and frustration, anxiety and ambivalence, have become by-words in our age.

One need only look at the titles of recent novels, magazine articles and Sunday supplements to newspapers to see that our dilemma and problem is being popularized. Sincere men and fakers, dedicated practitioners of healing and quacks, men of God and charlatans hold out hands to the bewildered. Most of these hands are hands of help, but many are hands of greed which push the sufferer deeper into his despair and even into death. Kinquard, the Swedish philosopher, pointed this out in his book, "Sickness Unto Death."

But, before you or I can give any real help, we must come to a clear understanding of the roles, and we must understand the nature of those who come to us for help. We must understand that they are more than physical bodies with somatic complaints; they are more than psyches in the need of orientation. Yes, they are more than souls in need of saving. These are persons, unique and yet total, complex and yet unified. It is the person who has the need. To be certain, we must deal with the symptoms, but we can never ignore the personality of those who seek our help.

The physician's first task is to heal. In some cases measures of a technical nature are the only thing needed, but with many patients the physician's task can only be fulfilled by accepting a wider mission, an educative mission. The physician is called upon to help people to develop, to re-enter the main stream of life by conforming to the laws of life, to grow up harmoniously

and even, as Freud said, to become adult. To heal means to remove from those who seek our help every physical and psychic barrier to growth. To treat a patient only symptomatically may well take care of the immediate situation, but it may ignore the deeper problem which gave rise to the initial situation.

Mots people who come to you troubled in spirit as well as in body, have difficulty in accepting life as they find it. Thus the physician becomes the enabling instrument through which the person can accept responsibility, for literally the physician, as well as the clergyman, many times finds that he is holding in his hands the future life of a distraught person who is crying out for help. And when the struggle is hard, a sedative, a tranquillizer may procure the needed respite for the battle to be renewed with equal vigor tomorrow, but these agents may also become means by which the patient and the physician and the clergyman avoid the inevitable struggle.

These alternatives, looking at the patient as a person, total, complete and unique, as opposed to being only a receptacle for sedative and tranquillizing agents, force upon the modern physician the necessity for examining and re-examining the patient's problem, for exploring and re-exploring the various courses of action open to him through technical medicine.

As Dr. Paul Tournier, the famous Swiss psychiatrist, points out in his book, "The Meaning of Persons," very often physicians are engaged not only in body healing but in large measure in soul saving as well. To be certain, there is a line of demarcation whereby we can clearly state that this problem is physical by nature and another is spiritual by origin, but there is that vast area wherein there are shadings of both physical and spiritual, where it becomes impossible to separate the two. It is in this area that the physician and the clergyman can work effectively as partners rather than as competitors.

It is a human impossibility for a physician to divorce himself from his own standards of moral and social behavior when

he is wrestling with the behavior pattern of his patients. A degree of transference is effected in most physician-patient relationships by the very fact that a patient comes to you, because, by virtue of your training, you represent an authority figure. The physician's values, therefore, become all the more important. Quite without realization every one of us imposes our God upon those who come to seek our help. The God that we give to the seeker might well insure either his recovery or his continued confusion.

Now, true, no physician is called upon to impose his own scale of values upon his patients, but if we help the person, not the patient, to recover his fundamental function in life, the capacity for making right choices, sooner or later he will raise the question of values. The ability to make right choices stems from the total health of the person. A physician cannot ignore the question of value judgments by claiming that he is neither clergyman nor philosopher but only a physician. We must be certain of our own convictions and be willing to take the responsibility for them, yet without trying to impose them on the person. There is no spiritual neutrality. We all have our Gods whose value system we employ. Scientific naturalism, pragmatic materialism, over-technical science or even a sterile theology are but a few of the false Gods which prevent persons from reaching a true maturity. This matter of values in our relationship with those who seek our help indicates how far we must go if we are willing to treat the whole being. True healing has no sentimentalism. It means wanting the patient to be brave while we ourselves have the courage to help them to be brave instead of making ourselves accomplices in their retreat. If then we are to be more than accomplices in retreat, we must face realistically the multiple facets which go into the true nature of a person who comes to us for help. We must see in them more than containers full of malfunctioning organs. We must discern more than just maladjusted mental processes. We must see the true person who has come to a physician because through the physician's training and sensitivity the person can be made

whole. This is the physician's role, to courageously face the fact that he is treating whole beings.

Now, religion also bears its responsibility to those in trouble, sorrow, need, sickness or any other adversity. I must define religion. Religion is that God-given agency by which man can achieve his place and fulfill his purpose within the divine economy of life. I am only too willing to admit that there are a great many sins committed in the name of religion. Many gimmicks are used to delude the naive and the immature into thinking that religion's only purpose is to free him from the traumas and anxieties of daily human experience. These offers are made through mental gymnastics bearing such fancy titles as "positive thinking," when in reality a degree of negativity is indicated. Religion cannot offer a celestial snooze in the sky once we are finished this mortal vale of tears.

Religion must face realistically that life is to be lived here. It must teach its adherents how to confront the problems of life, not with fear and anxiety, but with



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faith and hope. Religion's purpose is to teach man to live creatively in the tensions this life structures. Dr. Appel has already touched on this point. Tension is necessary. It is a concomitant of maturity. In discussing this with an older clergyman, complaining about the tensions of my own life and ministry, he looked at me and said, "Young man, you never saw a limp rope pull a load." Tension is the basic minimum to creativity. Therefore, one of religion's primary purposes is not to delude its adherents into an escapism but to teach them how to live creatively in the tensions that life structures.

We also find that "faith healers" traffic in human needs and miseries by offering help which is neither spiritual in origin nor sound in orthodox theology. I do not deny the power of God to intervene in human affairs nor do I doubt the power of things spiritual to help a person toward complete health. But I do condemn the processes of some religionists whereby the true power of religion is prostituted to an end never promised by God and certainly not desired by man. Parenthetically it is also significant to note that "faith healing" is used most widely in an effort to save a given parish from a failing situation. The desire to heal is not always the desire to heal individuals so much as it is to salvage a sinking church and buoy up a failing pastor.

Such promotions as "faith healing" and panacea programs only serve to hurt the name of true religion and to hamper its efforts to work effectively with other disciplines in assisting persons to reach full maturity in the life process.

What then is the responsibility of the clergyman in this matter? There can be no better basis for a clergyman to use in his approach to persons than that found in the Biblical concept of Genesis, wherein the writer, amidst all the naïveté of his story, has captured an often forgotten truth and a neglected concept. In the first chapter of Genesis this writer of old says, "God saw everything that he made and behold it was very good." We are not dealing in theology with an essentially evil creation; we are dealing with a good creation. And by

this token, man, who is the central figure in creation, is also good. Man is not a being who has an immortal soul which is essentially good but is encased in a body plagued by evil appetites. No man is good, and those who look upon him in theology as a sinner alone fail to realize the total and essential means of creation. The clergyman must look on each person as a creature of God, essentially good, a creature whose personality is expressed by two living facets, a body and a spirit, which are inseparable because they are the aspects of life.

The Christian religion, in particular, must cast aside the notion that man is a duality; one part good and the other part, while not altogether bad, somehow a deterrent to good living.

Only on such a basis can the clergyman see that those who come to him for help are suffering in their whole being and not just in a segment of their creation. This is the unnatural division. Man cannot be segmented either by religion or by natural science because man's being is an essential unity. The interaction of body and spirit is too evident for any of us to deny this fact. The effects of spiritual attitudes reflect themselves in somatic symptoms. Physical afflictions take their toll on our mental and spiritual processes.

With the physician a clergyman must share the first responsibility of understanding the nature of those with whom he is dealing. Secondly, the clergyman must be familiar with all the resources open to him as he, too, seeks to become an enabling instrument by which this person, weak in body and sick in spirit, might regain a productive maturity. Just as the physician must employ medicinal agents, so the clergyman must use all the agents open to him. By the same token the clergyman must not become a person in retreat. He must face with boldness and courage the problem presented to him.

The clergy in the last two or three years have been critical of the excessive use of tranquillizers and sedative agents, but at the same time they often have utilized spiritual tranquillizers and celestial seda-

tives rather than wrestling with the problems confronting them. The clergyman hands out a prayer and a platitude rather than admit that more is needed or that the problem is deeper and more difficult than he realized, or even to admit that he is unable alone to meet the needs of the person.

Here the clergyman's need is to understand the resources offered by other disciplines and to utilize them through their respective agents. In some religious quarters there is a tendency to deny the validity of any discipline which did not have its origin in religion, or to be suspicious of any new approach to the nature of man. So often this denial or suspicion is a result of the fact that these new disciplines are forcing religion to face questions which for centuries religion has allowed to go begging. Contemporary religion must come to understand and appreciate the research and investigation, the knowledge and experience which deals with human life. Religion cannot anathematize other approaches to the nature of man. It would be better if religion would baptize these approaches.

The relationship between theology and the natural and social sciences has been strained in some quarters. But in recent years, through mature reflection and greater experience, this is disappearing. The clergyman must do his share to lift the veil of confusion and doubt. As Dr. Appel pointed out, the clergyman often is the first to whom a sufferer will turn. He has come to know the clergyman and trust his judgment. The person does not understand the nature of his illness, he doesn't know the origin of his pain, he can't understand the etiology of his confusion. Yet he knows he needs help. He is afraid to approach a physician because the magazine articles and radio programs have caused him to fear illness, or he is afraid of psychiatrists because he does not feel that his problem has an emotional or a mental base. All he knows is that he needs help. He may well pour out to the clergyman a long line of complaints, while seeking sympathy, support and acceptance. The clergyman bears the responsibility. To merely listen may well compound confusion,

to ignore these complaints may lead to deeper frustration and to handle them inadequately is a dereliction of our clerical duty to those committed to our charge.

In realizing these complaints the clergyman must know that often they are symptomatic of deeper problems. The clergyman must then decide the course of action to follow, what resources are available and he must be supportive in any action he recommends. His role is not diagnostic, it is supportive. He is not a therapist, but he is a person in the total healing process.

The practice of medicine, particularly in recent years, has developed a great many new and valuable services in the treatment of human needs. Religion must also develop specialized services. The local congregation can no longer be either a "Medieval village" nor a "Suburban Country Club." Our local churches must be dynamic organisms motivated by God and carried on by spiritual momentum that seeks to minister to all men. The arid orthodoxy of the Middle Ages cannot speak to a contemporary society. Medicine, the social sciences and education, hold out new experiences and knowledge which can be put to good use in the practice of religion.

The seminaries which train men for the ministry cannot sit back and ignore these advances. They must make use of them. This is not to say that religion has been asleep. There are many notable efforts in this field, the Institute for Clinical Training, the Council of Pastoral Care, the Academy of Religion and Mental Health are but a few.

Also, it is noteworthy that many clergymen engaged in parochial work are taking additional training at universities and hospitals. You, the physician, can encourage this practice in your own community. You can talk to the pastors (I assume you see your own at least once a week anyway). You might try to get him to make use of many of these agencies and available facets of knowledge. You might encourage, through your county societies, interaction with local ministerial associations. You might seek to understand one another. You might seek

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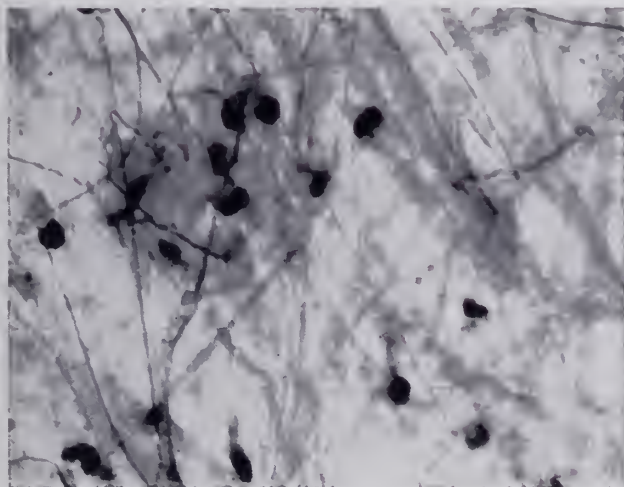
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to disseminate much of your knowledge, gained by long experience, with those of us who are seeking in our capacities to help the whole being.

It is incumbent then for the clergyman who is effectively to minister to the suffering, the friendless and the needy that he be aware of his sacred charge to approach individuals as persons total and complete. To save souls sometimes means to help heal bodies. The clergyman must be aware of the resources available. He must be conversant with other disciplines and he must be willing to make use of the help they offer.

Yes, the human person is complex. His complexities need the help of many skills, the experience of many disciplines and often the understanding of many minds. No discipline can completely minister to man's needs. An intelligent, cooperative effort on the part of physicians and clergy can do much to alleviate human suffering and to promote healthy productive communities.

Thank you.

President Baker: Thank you very much, Reverend Varley.

We will now hear from Dr. J. Roscoe Elliott on the general practitioner and surgeon's relationship to this particular subject.

Dr. Elliott: Thank you, John.

Members of the State Society and guests: The few things that I am going to say have nothing to do with theory. They are from observation made by a practicing physician over many years of the attitude of the average patient toward religion as I have seen it.

I had been in practice only a few days when a timber worker was brought into my office with a severe injury. He had been in charge of a large circular saw and had just pulled the belt prior to the luncheon period. The saw was still revolving when he stumbled and fell backwards onto it. It caught him in the upper thigh and gluteal muscles. There was a complete severance of these muscles down to the bone, but fortunately the saw had so slowed up before

he fell onto it that the contact stopped the motion before further damage was done.

There were no hospitals in the State at that time south of Wilmington, and the Peninsula General Hospital in Salisbury, Maryland, was just in its infancy. Something had to be done quickly in order to save this man's life for he was bleeding profusely.

But to get back to this accident and this Negro patient.

He would be what we call today a "worthless fellow," working only long enough to earn money for food and whiskey. He would steal and lie. But as he lay upon my examining table drenched in blood, and with it still pouring from him and forming puddles on the floor in his full view as he lay face down, there came from his lips the prettiest, the most fervent, the most sincere, the most pleading prayer I have ever heard come from the lips of any person.

In a half jesting manner I said, "Lawrence, do you pray that way often?"

For once he told the truth. Perhaps it was the fear of death in him, but he said, "No, Doctor, only when I gets in a jam, and when I gets in one I sho' talk to that Man then."

Over the years I have seen this statement lived up to by the great majority of patients. In attending the sick it is seldom that one hears a supplication or a prayer to the Almighty except when a patient is in great difficulty or pain, or is so sick that death seems imminent. In other words, when a patient gets in a jam, then and then only does the need for prayer become a reality, and we as physicians hear some pretty radical promises on the part of the patient if he can only be relieved from his jam, promises which are often forgotten after he is relieved from his distress, whether that suffering be mental or physical.

As a further example of what I am trying to say, a short time ago I read of a man who at dawn one morning, in the State of Utah, died on the gallows. He had been convicted of murder two years before. Dur-

ing these two years he had been in prison, and during this time he had never shown any signs of remorse for his act, nor had he ever shown any interest in religion when talked to by the jail chaplain. Even when he was led from the jail to the scaffold a few hundred yards away he still had hopes of getting free and showed no signs of repentance. But when the black cap was drawn over his head, and the chaplain had offered a final prayer for his soul, this man was heard to say, "God forgive me and have mercy on my soul."

These are extreme cases, but in our every day practice we find that spiritual help is seldom sought until driven by compulsion, and I suspect that even the ministers in their visits to the sick find that the conversation of the patient does not dwell upon spiritual help unless the subject is first brought up by the minister himself, or unless the minister has been sent for by the patient because of his fear of not getting well.

And so I believe that the average patient when taken ill thinks first of his doctor, and I like to think that he is thought of first not because the patient just wants to get well, but because in addition to getting well he believes that his family physician, the man whom he has trusted on so many occasions, is the man with whom he not only is willing to place his life, but also is willing to go to for advice in many other problems of life that are always arising. And these non-medical problems often tax our ingenuity, too.

The family physician must possess a sound knowledge of medicine, but knowledge alone of how to treat the patient will not always suffice. What often is more important is that he possess a spirit of understanding, sympathy, compassion and real interest in all that the patient has to say, much as the listening to such may tax his in patience. This accomplishment is not taught in schools nor can it be learned in textbooks, but the ability to inspire confidence and our willingness as physicians to listen, in short, our bedside manners, brings about a patient-physician relationship of absolute confidence.

Sometimes this extreme confidence on the part of the patient in his physician may be overdone. I had a patient once who thought that he could not possibly die should I care for him. But he did. One feels sometimes in such cases that he has in a way abused the patient's confidence, but of course we are not infallible. This relationship however may be fragile, and it can be destroyed altogether by an impression of indifference. A reproving look, an unsympathetic word, a quick glance at the clock, a prescription written before the patient has finished telling about his illness may tend to destroy confidence, and when once destroyed the most scientific knowledge and treatment often will fail to help the patient.

And now a word about the role of the clergyman with the sick patient and the important part that he plays in the healing of the patient, particularly when he and the physician work in conjunction.

On many occasions in my practice I have been forced to admit that no organic trouble could be found to explain the com-



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plaints of the patient, but this does not alter the fact that the symptoms, subjective as they may be, are nevertheless present and very real to the patient. The psychiatrist plays a big part in the relief of these patients but he is not always available for immediate contact in a small community. But the clergyman, like the family doctor, night or day is always on call, and not once in my whole life have I ever personally called one in what I thought was an emergency that he did not respond, much quicker, I might say, than a medical consultant could have been obtained.

The clergymen, like many physicians, have a reassuring effect upon the patient the moment they appear. The medical man treats the body and the mind, but so often the spiritual needs are not met with a pill or a hypodermic. But only the reassurance given by the minister that there is a consultant in the personage of God, with greater knowledge than either the family physician or himself, to whom, if the patient will entrust himself, all troubles could be removed. We as physicians can say this, too, but coming from the spiritual physician we find that it has a quicker and a more lasting response. Many times have I seen such consultations with the clergyman bring marvelous results.

Certainly many family problems which are brought to the attention of the physician for his help are often beyond his scope, but the minister is able to enter the picture and restore to normalcy what seems to be a broken family life. It is he who can point out to the family that love is only togetherness, that love is true sharing. It is the minister who most often can convince such people that love is the respect of each individual, and respect for his independence of thought. It is he who can show these troubled families that real love makes no claims or demands but rather gives freely of courtesy which comes from the heart. It is he who can often transform troubles into fun, gaiety, gratitude and even gravity. It is he who can convince members of a family that when separated by circumstances or even by death, that they are still together. It is the minister who can point out to them that togetherness is unity, that it is a belonging, but without possessiveness, just as all members of God's family belong to God.

And so I believe there is a great field in human relations from a physical and spiritual standpoint where best results are obtained, and the patient receives greatest benefit and satisfaction when minister and physician work hand in hand.

WHAT IS SOCIAL SECURITY?

The social insurance system popularly called social security is a Federal sponsored program whereby the nearly universal pooling of resources makes it possible to provide financial protection against these socio-economic accidents:

- Death of the family bread-winner;
- Severe disability at age 50 or above;
- Retirement due to old age.

When earned income is lost to a gainfully employed person covered by the system, or to his family by reason of death, disability or retirement, the income is partially replaced with monthly benefits paid from a special trust fund. The trust fund is formed by set contributions from covered employees and self-employed persons on a compulsory basis. Nine out of ten working people are now building protection for themselves and their families under the social security law.

The amount of each person's contribution is determined by his annual earnings; the amount of benefits payable to a worker or his family is determined, within limits, by relating the payment formula to his standard of living as evidenced by his earnings' history. The benefit formula, as well as the tax contribution, is based on a maximum of \$4,800 which can be credited to an individual's account in any one year.

This program, which became an actuality in 1937, has not yet reached maturity, and so the present tax rate is destined to increase every three years until 1969 when it is contemplated the contributions and benefit scales will be in actuarial balance.

Self-employed persons pay a tax amounting to one and one-half times that which an employee pays. The maximum self employment tax this year is \$157.50. In 1969 the maximum self-employment tax will be \$324.

Generally speaking, the benefit schedule is not static but increases somewhat proportionately with the economy. Benefit rates have trebled since the 1940's.

Retirement age is 65 for men, 62 for women. Retirement ceases to be a condition for entitlement once a person is age 72, when he can continue to earn any amount and still receive benefits. Before that time, a beneficiary must limit his earnings in order to be eligible for payments; however, allowances are made for those who retire temporarily or seasonally. Investment income, as distinguished from earned income, does not act as a limitation upon the receipt of benefits.*

The benefit amount of both retired beneficiaries and disabled beneficiaries is the same, reaching an individual maximum of \$1524 yearly, and a possible family maximum of \$3048. Disability is defined as the inability to engage in any substantial gainful activity because of a severe physical or mental impairment. If the worker in a family is receiving benefits, certain of his dependents are also eligible for payments, even though they have never contributed to the trust fund. Thus a disabled worker who was earning at least \$4800 annually would be entitled to \$1524 each year, his minor child would be entitled to one-half, or \$762, and his wife would also be entitled to \$762. If there were several children in his family, the individual amounts would be adjusted downward, so that the total would not exceed \$3048, the maximum annual benefit payable to one family.

If a person dies leaving a family, the maximum payable to his widow is three-fourths of what her husband would have received, or \$1143.60 yearly. A minor child (or a disabled child over 18) would be entitled to a like amount. Where there are several children, the portionate amounts would be adjusted to bring them within the \$3048 family maximum. If there are no

* The retirement provision is a matter of economy; without it the program would be much more costly. It means that the average male defers applying for benefits until he is about 68.

children, the widow (or a dependent mother or father) would receive \$1143.60 annually when retirement age is attained.

A lump-sum death payment amounting to a maximum of \$255 is payable on the

death of every insured person, in addition to the monthly benefits.

MYRON MILBONER, District Manager
Department of Health, Education and Welfare
Social Security Administration
Wilmington, Delaware

EXAMPLES OF MONTHLY SOCIAL SECURITY PAYMENTS BEGINNING AFTER 1958

Average monthly earnings after 1950	\$50 or less	\$75	\$100	\$150	\$200	\$250	\$300	\$350	\$400
Retirement at 65									
Disability at 50	\$33.00	\$45.00	\$59.00	\$73.00	\$84.00	\$95.00	\$105.00	\$116.00	\$127.00
Retired woman worker starting at:									
62	26.40	36.00	47.20	58.40	67.20	76.00	84.00	92.80	101.60
63	28.60	39.00	51.20	63.30	72.80	82.40	91.00	100.60	110.10
64	30.80	42.00	55.10	68.20	78.40	88.70	98.00	108.30	118.60
Retired couple—wife starting at:									
62	45.40	61.90	81.20	100.40	115.50	130.70	144.40	159.50	174.70
63	46.80	63.80	83.60	103.50	119.00	134.60	148.80	164.40	180.00
64	48.20	65.70	86.10	106.50	122.50	138.60	153.20	169.20	185.20
65	49.50	67.50	88.50	109.50	126.00	142.50	157.50	174.00	190.50
Widow, surviving child, or dependent parent	33.00	33.80	44.30	54.80	63.00	71.30	78.80	87.00	95.30
Widow and 1 child or 2 dependent parents	49.60	67.60	88.60	109.60	126.00	142.60	157.60	174.00	190.60
Widow and 2 children	53.10	67.60	88.60	120.00	161.60	190.10	210.20	232.00	254.10
Usual maximum family pay- ment	53.00	67.50	88.50	120.00	161.60	202.40	240.00	254.00	254.00
Single lump-sum death pay- ment	99.00	135.00	177.00	219.00	252.00	255.00	255.00	255.00	255.00

SOCIAL SECURITY—POOR MEDICINE FOR DOCTORS!

Of the many socio-economic questions facing the medical profession today, one of the most complex and controversial is the inclusion of physicians under the Old Age, Survivors and Disability Insurance Program of the Social Security Act. The American Medical Association has opposed the compulsory inclusion of physicians under OASDI continuously since 1949. Yet there can be no doubt that many physicians wish to be included in the system and that others are in doubt as to the soundness of organized medicine's traditional opposition to such coverage.

Volumes have been written discussing the pros and cons of the Social Security program. This article is intended merely to reiterate briefly the reasons for medicine's opposition to the inclusion of physicians under OASDI. The reasons for this opposition can be roughly divided into two major areas: philosophic and economic.

The philosophical arguments have to do with the theory, history, and long-range prospects for social insurance systems, both in this country and abroad. America's physicians have long been aware of and concerned with the inevitable pattern of social insurance schemes in foreign countries. Their growth from retirement payments—to survivorship payments—to permanent and total disability payments—to temporary cash sickness benefits, and finally—to national compulsory health insurance is all too clear.

The Social Security system in this country has followed this same traditional pattern of expansion. Since its enactment in 1935, our social security program has moved farther and farther away from its original concept of providing a base of financial protection for aged citizens, and, has moved closer and closer toward the "cradle to the grave" concept of the welfare state now in effect in many foreign countries.

The evolution of a social insurance system into a comprehensive welfare program including socialized medicine does not occur overnight. It took Great Britain 37 years to reach this point but the lesson of the experiences in foreign countries is clear, and the progress of our own social security program towards this ultimate objective is all too apparent. In view of these facts it would be inconsistent and unwise for physicians to voluntarily request that Congress include them in a system which has traditionally been the vehicle through which medicine has become socialized.

The economic dangers of becoming part of the social security system are perhaps more apparent and, if fully understood, may be more persuasive with many physicians. First, OASDI is not "insurance." The individual citizen has no legally enforceable contractual right to obtain the benefits that he expects or hopes to receive. Congress has specifically reserved to itself the right to alter, amend, or repeal any provision of the program. The physician has no way of knowing what he or his family will receive in the way of benefits in future years, and just as importantly, he has no way of knowing the amount of tax that he may be required to pay for these unknown benefits.

If one looks at social security benefits today, he may assume that they represent a "wonderful deal" financially, unless, of course, he considers the many thousands that are denied benefits every year because of some subtle restriction or limitation.

In 1954, it was determined that each Social Security beneficiary was receiving an average of \$30.00 in benefits for each \$.50 paid in taxes. This ration has undoubtedly gone up since the liberal increases in benefits in 1956 and 1958. These figures serve to demonstrate the instability of the program as a self-financing system.

It is this tremendous disparity between taxes and benefits that should give pause to

any physician contemplating entering the program. The total unfunded debt of the OASDI program is presently estimated at more than \$325 billion. When the maximum number of potential beneficiaries become eligible, it would seem that some alterations in the program will be inevitable. Either the social security taxes will have to be increased tremendously, or the benefits will have to be seriously restricted. Under the present tax schedule, employed persons, together with their employers, will be paying taxes of nine percent of their earnings up to \$4800 by 1969. Self-employed persons will be paying 6¾ percent by that time. Moreover, there can be little doubt that by 1969, both the tax rate and the taxable wage base will have been increased substantially. Yet this rate of taxes will not finance the present scale of benefits in future years even without the expected further liberalization of benefits.

It is quite possible that in the years to come, persons covered by the program will object to such heavy taxes. The only alternative will be to seriously restrict the benefits of the program.

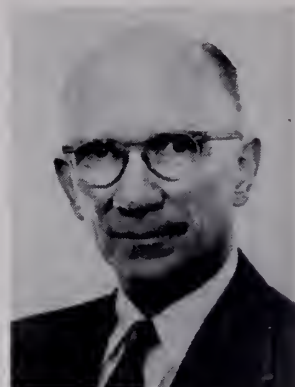
Either prospect is not particularly appealing. The future financial prospects of OASDI should be sufficiently questionable to physicians so that they will conclude that they do not wish to become a part of the program.

Either the philosophical reasons for opposing inclusion in the social security system, or its uncertain economic future, should persuade the doctors of America that social security is indeed poor medicine for them.

Law Department

American Medical Association

PRESIDENT'S PAGE



Believing that the President of a State Medical Society should have a ready means of communication to the Society membership, the president approached the editor of our Journal about a President's Page in the Journal. The editor enthusiastically approved of the idea. So with this April issue, a start is made with the hope that this page may always contain items of interest to its many Delaware readers and that subsequent presiding officers may see fit to continue the custom.

Even though our state is small, with only three county societies, the problems of the State Society are as numerous as those of a society of a more populous and bigger state. It is hard to imagine how the State Society adequately functioned before the employment of our busy, full-time Executive Secretary, Mr. Lawrence C. Morris, Jr. It is a tribute to the ability of Dr. W. E. Bird that he was able to not only run the Society and edit the Journal, but also to carry on an active practice until his retirement to become executive secretary. It is most fitting that the new offices of the Society in the Delaware Academy of Medicine are to be dedicated to the memory of Dr. Bird, who, for forty years, was the editor of our Journal.

The most pressing problem before the Society since your President came into office has been what to do about the Annual Meeting. During the last several years, the attendance at the scientific sessions has been what might be termed "scanty," an indication that either the subjects and/or speakers have not had an appeal or that

the membership has had too many scientific meetings to attend. Many outstanding speakers have been provided for our annual meetings, but when only a handful of the "loyal few" turn up to listen, there cannot help but be embarrassment. In recent years, the Delaware Chapter of the Academy of General Practice has come into existence, providing two excellent scientific meetings each year. There have been more meetings than ever before on special subjects such as cancer, heart, etc., and there have been some excellent teaching seminars in the Delaware hospitals. Perhaps all of this is enough of meetings, for there is certainly a saturation point in everything. The Council, believing strongly that something should be done, have been giving very serious consideration to a change. At the Council meeting on February 18th, it was decided that for 1959 there would be a one-day meeting, which will be Thursday, October 15th. The present thinking for the program of this day is as follows: In the morning there will be either a meeting of the House of Delegates or a semi-scientific session followed by a luncheon; in the afternoon there will be a scientific seminar on what is hoped may be a popular subject, such as the "Problems of the Aged," to be followed by a business session, and in the evening will be the Annual Dinner. Dr. Louis M. Orr, who will become the President of the A.M.A. in June, will be present at the meeting and will speak at the dinner. All the meetings, the luncheon, and the dinner will be held in the new Academy of Medicine Building. Whether the pattern of the Annual Meeting will continue with only a

one-day session will depend upon the wishes of the membership after this year.

The new addition to the Academy will be ready for occupancy about June 1st, and at this time our State Society and Journal will move into its new offices, which it is hoped will be its permanent home. The new auditorium of the Academy will be able to seat about 300, the basement will be amply large for all dinners and luncheons and, in addition, there will be two conference rooms. The dedication of the new Academy building is now planned for the evening of October 14th, the day before our Annual Meeting. Dr. Paul H. Jeserich, the President of the American Dental Association and Dean of the Dental School at the University of Michigan, will be present for the dedication, as well as will Dr. Orr.

Since the Annual Meeting has been shortened, it is hoped that during the year the number of teaching seminars may be increased to five. The Committee on Education will try to accommodate any County Medical Society that wishes to have a

seminar of this type in conjunction with a regular monthly meeting.

The Fourth Medico-Legal Symposium, sponsored by our Society and the Delaware Bar Association, was held on February 22nd and was well attended (115). It was the most enthusiastic meeting of its kind which so far has been held. It is believed by both lawyers and physicians attending that a much better understanding between the two professions in Delaware has come about due to these meetings. Particular thanks are due to Judge Daniel L. Herrmann, the Co-chairman for the lawyers, and the two physician Co-chairmen, first, Dr. Washburn and, later, Dr. Gordy.

Your President will greatly appreciate suggestions for this page, which will always be kept short. He would like to discuss subjects you are interested in, in addition to giving you information on the most pertinent matters of the State Society. If you have ideas, drop either the Editor or your President a line.

A. R. SHANDS, JR., M.D.

President, Medical Society of Delaware

A SIMPLIFIED CONSERVATIVE TREATMENT OF SEVERE BURNS

BEN H. JENKINS, M.D.

NEWNAN, GEORGIA

The management of a severely burned patient requires careful medical supervision, and cooperation of all attending personnel. This calls for the complete care of the patient and resolute treatment of the burn wound.

There are, at least, four phases in the treatment of the severely burned patient:

1. The management and prevention of shock: The first forty-eight hours represent the critical period in which precautions against secondary shock should be taken by the physician and attending personnel.
2. Correction of hemoconcentration: Hemoconcentration results from the escape of plasma from the circulating blood into injured tissues and from denuded unprotected surfaces.
3. Prevention of infection: It is obvious that exposed tissue provides an excellent culture medium without the usual skin barrier to infection.
4. The promotion of epithelial formation to cover the denuded surfaces.

The healing of a burned surface involves competition between the regeneration of epithelium and the proliferation of fibroblasts.¹ The essence of treatment of the burned area is to bring about covering as rapidly as possible to minimize scar formation. Thus, it is of major importance to rid the denuded areas of those substances which act as deterrents to normal healing.

Investigators, working in the area of treatment of deep burn wounds, have expended much effort to develop a method to facilitate the removal of burn eschar and to promote early closure of such wounds. The use of proteolytic enzymes as debridement agents has received some mention in medical literature, but has attracted little

enthusiasm as a satisfactory clinical tool in conditions involving devitalized tissues.

The slough produced by a deep thermal burn has for its predominate substrate a denatured collagen. Binding this slough to viable tissue are thick bands of collagen fibers and cellular coatgulum. Connell and Rousselet² suggested that "the optimal treatment of third degree thermal burn slough awaits the development of an enzyme or enzymes that will act on the specific collagen and substrate making up the slough."

Trypsin has been described as an ideal agent for enzymatic proteolytic debridement³. When applied to a purulent and necrotic lesion, trypsin rapidly lyses the fibrinous strand and coagulum on the surface of the lesions. The lysis takes place in a matter of minutes. It digests the slimy and viscid coating, desoxyribosenucleoprotein, of the purulent exudate and then attacks any dead tissue in the lesion. There is an almost immediate out-pouring of serum which floats off the digested debris. The exudate becomes thick and serous. With this, fresh, viable leucocytes appear. Bacteria rapidly decrease in number and finally may disappear completely. As treatment is continued, the exudate decreases and ceases. A clean granulating pink surface is left.

Trypsin and chymotrypsin are two proteolytic enzymes with active digestant properties of devitalized tissue. It was decided to use an ointment containing trypsin, chymotrypsin and a bactericidal agent, 9-amino-acridine,* as a topical application in our treatment of severe burn cases. An aerosol spray containing benzocaine in a special oil base* was selected for topical analgesia.

* Parenzyme Ointment — The National Drug Company, Philadelphia 44, Pa.

* Dermoplast Aerosol made by Mallon Division of Cohn Chemical Corporation, N. Y.

MATERIALS AND METHODS

Three patients, two men and one woman suffered second and third degree burns as a result of a natural gas explosion. Another man suffered third degree burns on his right leg as a result of a kerosene heater explosion.

It might be well to define second and third degree burns as diagnosed in these patients. Second degree burns are those in which there is surface destruction with blister formation due to splitting of epithelial layers. In third degree burns there is destruction of practically the entire epidermis, however there are remnants of epithelial elements.

The open treatment of burns was used and a definite pattern of procedure was followed in all cases. Immediately upon admission to the hospital, the burned areas were sprayed with the aerosol benzocaine preparation. This was followed by routine procedures used in burn cases; hematocrit studies, infusions, antibiotics, tetanus toxoid, and when necessary, a Foley catheter was inserted to check urinary output. The patients were then placed on sterile sheets and a cradle was set over the burned areas which were again sprayed with the aerosol analgesic. The enzymatic ointment was applied to the burned areas and a new application was made every 24 hours, as long as it was necessary to debride the necrotic tissue. Gentle washing with Phisohex and warm saline was used to remove old tissue and ointment prior to a new application. The aerosol spray was used before and after each washing, and was used by the patient when he felt a need for it.

The overall treatment was supplemented with daily intramuscular injection of crystalline trypsin in aqueous suspension*; 5 mg. of trypsin in a one cc. dose daily for 10 to 14 days. The rationale for this treatment is based on the concept that intramuscular trypsin reduces inflammation and edema.

RESULTS

All four patients made an excellent re-

covery. Healing was rapid and scarring was minimal.

DISCUSSION

Trypsin has a broad spectrum of vigorous proteolytic action on protein, denatured protein, true peptones, respiratory and intestinal mucin, fibrin and protein split products. The final degradation products of tryptic digestion are small polypeptides and some amino acids. Crystalline trypsin does not digest living tissue since serum and viable cells contain specific trypsin inhibitors as well as non-specific inhibitory substances which act as protective mechanisms against proteolytic digestion.¹

Nature, at times, needs help to rid tissues of substances which act as deterrents to recovery. Fibrin does not exist in tissues under normal conditions. In the case of injuries, such as burns, fibrin has a salutary function. When the deposition of fibrin becomes extensive, the natural enzymatic mechanisms of the body may be unable to cope with the problem with the result that normal functioning tissues are replaced by inert fibrous material causing irreversible damage. The topical application of trypsin-chymotrypsin helps nature control this situation before the fibrous tissue problem is created.

The action in markedly increasing the rate of healing of burn areas is on the basis of ridding the area of deterrents to normal healing. Bacteriostasis results from removing the substances producing bacterial growth and multiplication. The action of trypsin thus enhances the bactericidal effect of 9 aminoacridine contained in the enzymatic ointment.

The profound healing effects of the enzymatic ointment are accomplished without detriment to normal physiologic processes of wound repair or damage to normal tissue.

The open treatment of burns was utilized because it seemed to present several advantages over the other methods:

1. Easy accessibility of burned area for observation and treatment.
2. The prevention of offensive odors caused by the closed method. This

(Continued on page 112)

* Parenzyme Aqueous. The National Drug Company, Philadelphia 44, Pa.

+ Editorials +

THE USE AND ABUSE OF THE ANTICOAGULANTS

The end of World War II marked the beginning of a new era in the treatment of thrombo-embolic diseases, an era made possible by the production of previously discovered anticoagulant drugs in quantities sufficient for clinical use. Unfortunately, there is difference of opinion regarding the indications for the use of these drugs. Statistics are presented to prove both sides of the question. Regardless, the anticoagulant drugs are commonly used in the treatment of patients with myocardial infarction.

TYPES OF ANTICOAGULANTS

There are two general types of anticoagulants, *heparin* and the *coumarin* group.

Heparin was discovered by McLean in 1916. Most of our knowledge about this drug is due to extensive studies that were carried out in this country by Howell and in Sweden by Jorpes. Heparin acts upon a certain phase of the clotting mechanism so that its action is immediate; likewise, the duration of this action is brief. From this standpoint it is an ideal anticoagulant. Its expense, however, and the fact that it must be given by injection are its disadvantages.

Dicumarol, the prototype of the coumarin group of anticoagulants, was discovered in Link's laboratory in 1939. It is the active principle in spoiled sweet clover hay, the cause of hemorrhagic disease in cattle. This drug is inexpensive and is given by mouth. It attacks the clotting mechanism at a different phase than heparin; its action is delayed and, equally important, is slowly dissipated. Some of the newer coumarin drugs are more rapid in action but there still is need for a more nearly ideal anticoagulant.

INDICATIONS AND CONTRAINDICATIONS

While there is considerable controversy regarding the use of anticoagulants routinely in patients with myocardial infarction, there is agreement that they should be used in complicated cases, and especially the

complication that most commonly predisposes thrombo-embolism—congestive heart failure. Most authors agree that obesity, shock, cardiac enlargement, previous infarction, persistent pain, and evidence of phlebothrombosis also are valid indications.

On the other hand there are definite contraindications to the use of anticoagulants. These may be absolute or relative but there is no clear line of demarcation between the groups. Bleeding tendency, liver disease, recent active peptic ulcer, recent cerebral or neurological surgery, subacute bacterial endocarditis, renal insufficiency, and severe hypertension are, for obvious reasons, contraindications.

TECHNIC OF ADMINISTRATION

Properly administered, Dicumarol should result in effectively depressing the blood prothrombin level at the end of 48 or 72 hours. Inasmuch as embolic phenomena are unusual during this early period of myocardial infarction, it is considered satisfactory to give the patient Dicumarol alone. In some patients with shock or congestive failure due to massive infarction, it seems desirable to obtain anticoagulant effects immediately. In such instances, heparin may be given concurrently with Dicumarol and its administration should be continued until there is evidence that the Dicumarol has caused the desired effect. No one doubts the effectiveness of heparin when given by vein, usually in doses of 50 mg. every six hours. Its action should be watched by a Lee-White coagulation time prior to the second dose. There are those who prefer a single daily dose of heparin in a repository medium but there is some doubt as to its effectiveness.

CONTROL OF ACTION

The action of Dicumarol is reflected by its effect on the prothrombin time. This test frequently is reported as a percentage of prothrombin in the plasma, 100% being

normal. This percentage is determined in part by the number of seconds necessary for clotting of the specimen when compared with a normal control. The percentage is misleading, however, because it is not calculated on a straight line graph, as one might expect, but on a curve that has been plotted to indicate the exact concentration of prothrombin for each second of the clotting time. Most experienced workers prefer to use the seconds as a guide in calculating the dose of anticoagulant as the percentage can be misleading. The anticoagulant dose is considered to be effective when the *prothrombin time* is 2 to 2½ times the control. With a control of 12 to 13 seconds, this means an effective range of 25 to 35 seconds. The daily prothrombin time must be used as the guide in ordering the daily dose of Dicumarol. It is most helpful to prepare a chart so that the daily prothrombin times and anticoagulant doses can be seen at a glance. One therefore can prescribe the daily dose looking back 48 hours and then anticipating the action for 48 hours in advance. A single prescriber,

other things being equal, should contribute much to a smooth course in any given patient. Indeed, a large university hospital has formed an "anticoagulant team" comprised of a few members who order all anticoagulants in the hospital. This is a marked contrast to the usual procedure in which the anticoagulant may be ordered by a different person every day.

If the initial prothrombin time is normal, an initial dose of 300 mg. Dicumarol is usual, followed on the second day by 200 mg. and on the third day by 100 mg., unless the prothrombin time shows that an effective level has been reached sooner. Once attained, the level should be maintained for at least three weeks; certainly until the patient is beginning to walk.

PITFALLS IN PRESCRIBING ANTICOAGULANTS

There are several common errors in prescribing Dicumarol. Once an effective prothrombin level has been reached, there is a tendency to omit the drug on that day. This is a common and serious error because we must prescribe today for the effect we desire in 48 hours. As a general rule, give some Dicumarol, even a dose as small as 25 mg. as long as the prothrombin time is less than 35 seconds.

A similar error is to omit the drug on a day when the blood level is found to be satisfactory but the prothrombin time is decreasing. For example: If the prothrombin time is 27 seconds, the level is satisfactory. If on the previous day, however, the prothrombin time was 32 seconds, it can be seen that the time is decreasing and it is probable that the level will be entirely ineffectual in another 24 hours. In this instance a much larger dose is indicated than was suggested in the first example.

Another common error is too great haste in using antidotes. If the prothrombin time exceeds 35 seconds, the patient should be observed closely for signs of bleeding but vitamin K should not be prescribed on the basis of the prothrombin time alone.

LONG TERM ANTICOAGULATION

Some patients with repeated thromboembolic episodes have done well on the



provides therapeutic levels . . . for 24 hours . . .
with low incidence of sensitivity reactions . . .

WHENEVER SULFAS ARE INDICATED

KYNEX

Sulfamethoxypyridazine Lederle

0.5 Gm. TABLETS/NEW ACETYL PEDIATRIC SUSPENSION

LEDERLE LABORATORIES, a Division of
AMERICAN CYANAMID COMPANY, Pearl River, New York

long-term administration of Dicumarol. In this instance, the prothrombin time should be kept between $1\frac{1}{2}$ and 2 times that of the normal control. After a time, most patients will have a fairly predictable response to the drug and it will be safe to increase the interval between prothrombin time determinations to several weeks.

OTHER DRUGS

Several other coumarin drugs are on the market, the proponents of each claiming superiority of their drug in rapidity of action and ease of control. These drugs are excellent but it must be remembered that in prescribing any anticoagulant drug, *there is no substitute for constant, meticulous attention to detail* and the physician who prescribes a drug because he thinks that it will be easier to use is bound to be severely disappointed.

ANTIDOTES

Rarely is any antidote needed for heparin when given by vein because of the short duration of its action. Omission of the drug is sufficient. When given in its long acting form, antidotes are protamine sulphate and whole blood transfusion.

TREATMENT OF BURNS

Continued from page 109

absence of offensive odors is a comfort to the patient and the physician.

3. The burned area is accessible to the patient or nurse for spraying with the aerosol analgesic. The patient derives a psychological boost, knowing that something is available at all times to relieve pain that might present itself at any time.

SUMMARY AND CONCLUSION

A simplified form of treatment for severe burns utilizing topical application of an enzymatic ointment and an aerosol analgesic is outlined.

The treatment results in rapid diminution of pain; the reduction in the amount of sedation necessary for pain relief; and in many cases the need for surgical removal of necrotic tissues is obviated by the enzymatic debridement. The treatment also re-

Vitamin K₁ is a specific antidote to the coumarin drugs. It is effective when given by mouth but may be given by vein when urgently needed.

SUMMARY

The physician must first determine if he wishes to use an anticoagulant. If so, he should attempt to give his patient the proper amount of drug to produce an effective level rather than just give lip service to an accepted procedure. Keeping the patient at an effective level is tedious work but it is not impossible. Keeping a chart on which daily prothrombin times and anticoagulant doses can be seen at a glance is helpful. Despite Wright's statement that statistically there appears to be some good resulting from small doses of anticoagulants resulting in suboptimal prothrombin levels, the fact remains that when a patient under the influence of anticoagulants develops a new thrombo-embolic episode, a search is always made for a time just prior to the episode when the prothrombin level was "out of control".

If it's worth doing, it's worth doing right.

duces scarring to a minimum and lessens appreciably the need for skin graft; the danger of secondary infection is reduced and hospitalization is considerably shortened.

It is not the intention of this report to convey the impression that this treatment will eliminate the need for skin grafting. It is suggested that the treatment will reduce the need for skin grafts, and when it is found necessary, a smaller area will require skin grafting.

Experiences with the treatment dictate the conclusion that the described conservative handling of severe burn cases is the procedure of choice and its use is recommended.

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*Pratt, R. T. C., and McKenzie, W.: Anxiety States Following Vestibular Disorders, *Lancet* 2:347 (Aug. 16) 1958.

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effective by itself in some patients—always as background medication in any antihypertensive regimen.

summary of clinical information — HYDRODIURIL (HYDROCHLOROTHIAZIDE)

IN EDEMA:

- greater oral effectiveness than with any other class of diuretic agent
- diuretic effectiveness maintained even on prolonged daily administration
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- has been reported to be effective even in patients who did not respond satisfactorily to other diuretics
- low toxicity—extremely well tolerated
- often achieves the benefits of a low salt diet without the unpleasant restrictions



HYDRODIURIL (HYDROCHLOROTHIAZIDE)

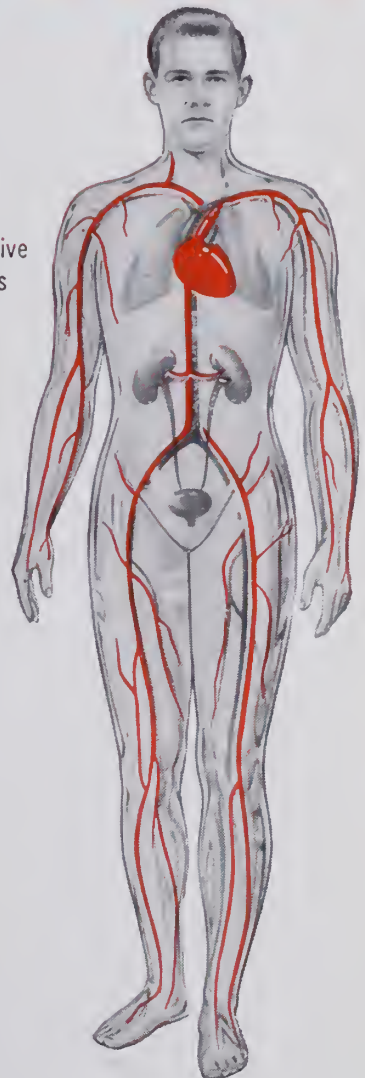
- highly-active derivative of chlorothiazide
- similar qualitatively to chlorothiazide but 10 to 12 times more potent
- loss of potassium is clinically insignificant in the great majority of patients on normal diets

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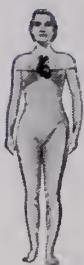
- provides background therapy in any antihypertensive regimen (by itself, HYDRODIURIL adequately controls hypertension in some patients)
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RECOMMENDED DOSAGE RANGE

In **EDEMA**: one to two 50 mg. tablets HYDRODIURIL once or twice a day

In **HYPERTENSION**: one or two 25 mg. tablets or one 50 mg. tablet HYDRODIURIL once or twice a day. (When HYDRODIURIL is used with a ganglion blocking agent, it is mandatory to reduce the dose of the latter by at least 50 per cent, immediately upon adding HYDRODIURIL to the regimen.)

SUPPLIED as 25 mg. and 50 mg. scored tablets, in bottles of 100 and 1000.

PRECAUTIONS:

It is important that dosage be adjusted as frequently as the needs of the individual patient demand.

HYDRODIURIL has shown no adverse effects on renal function and is essentially not nephrotoxic; for this reason it may be used with excellent results even in patients for whom organomercurials are contraindicated because of renal damage. The excretion of potassium is much lower than that of sodium and chloride and, as is the case with DIURIL®, the loss of potassium is clinically insignificant in the great majority of patients on normal diets. If indicated, this potassium loss may be easily replaced by including potassium-rich foods in the diet (orange juice, bananas, etc.).

Additional information on HYDRODIURIL is available on request.

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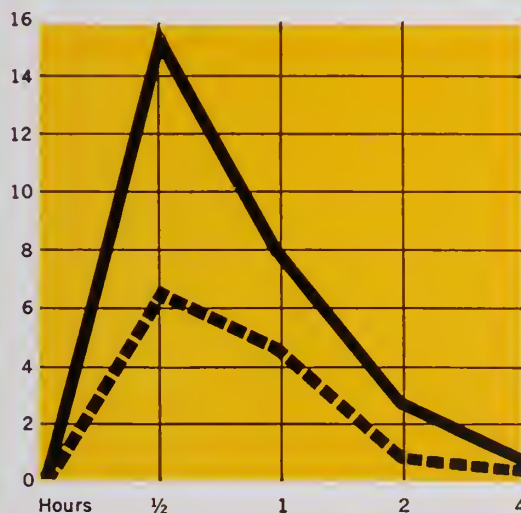
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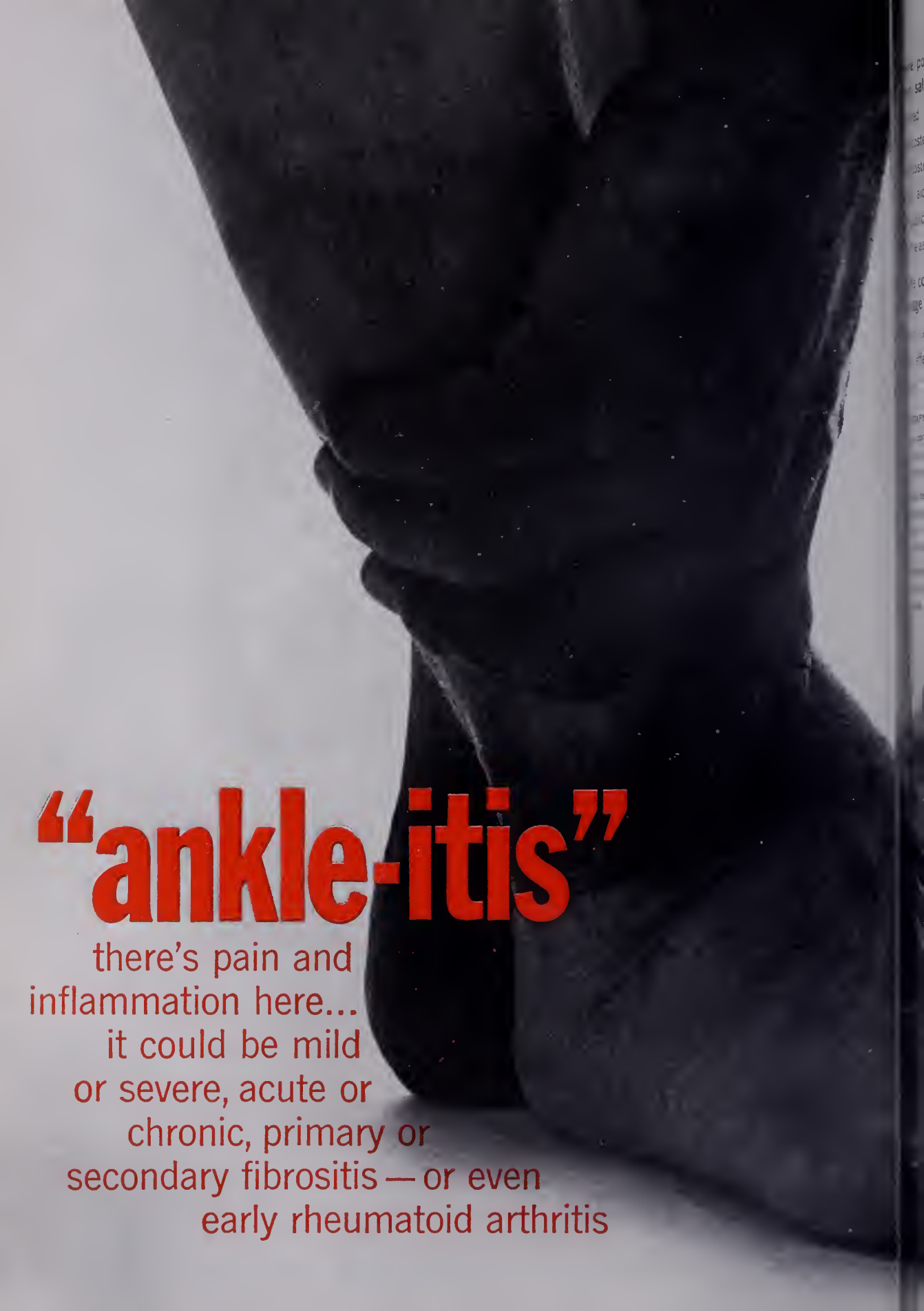
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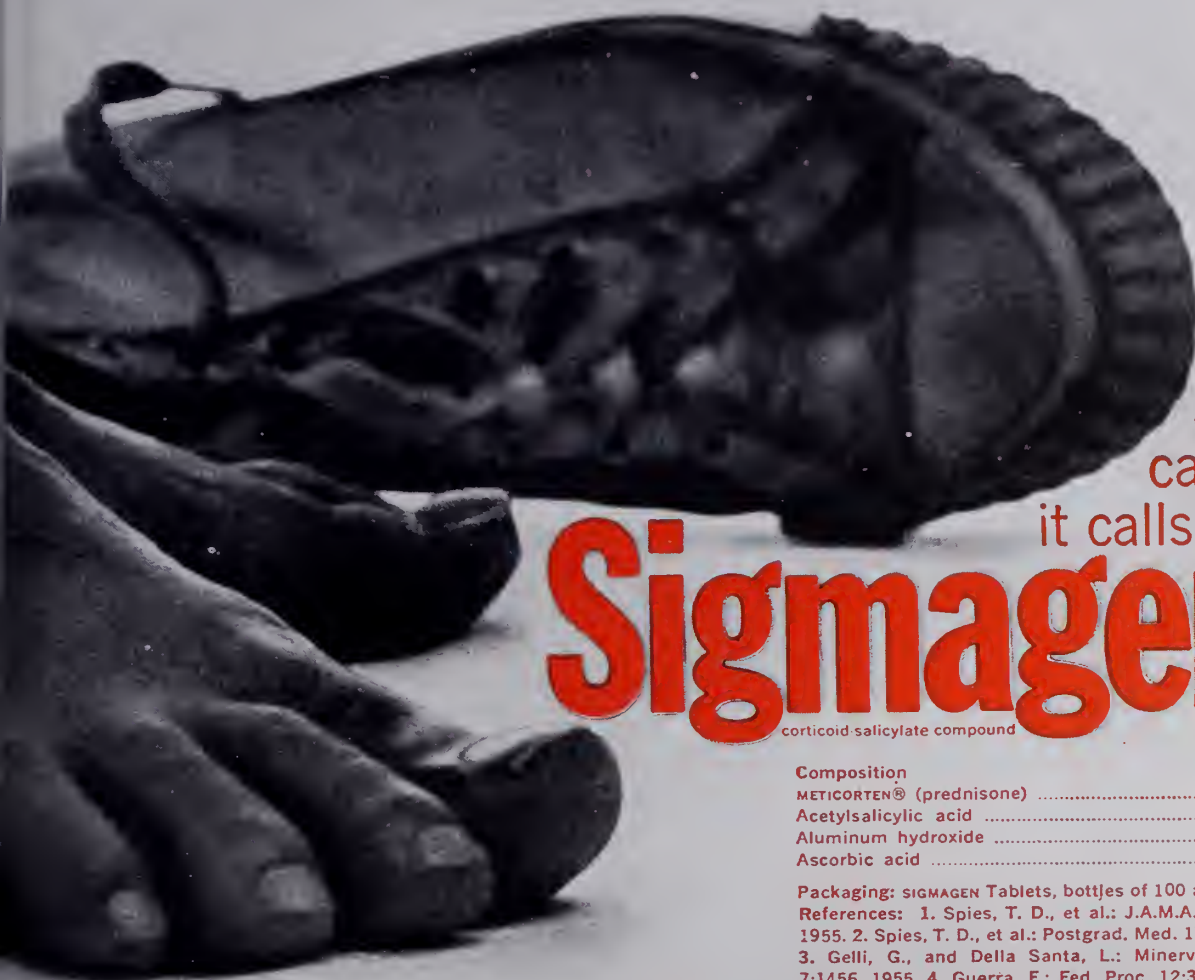
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References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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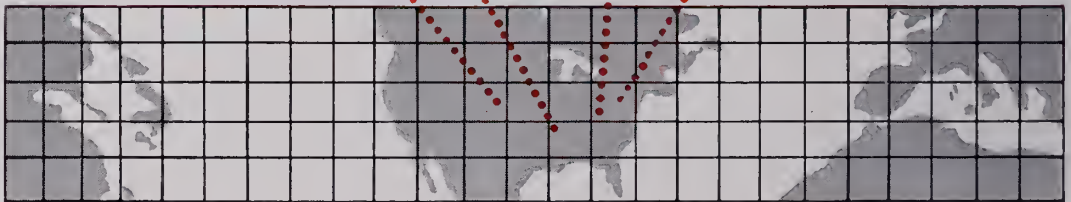
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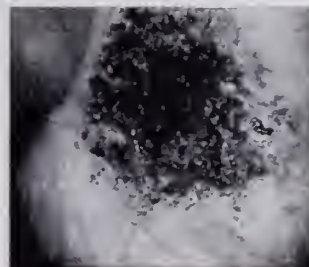
References: 1. Shelmire, J.B., Jr.: Monographs on Therapy 3:164 (Nov.) 1958. • 2. Nix, T.E., Jr., and Derbes, V.J.: Monographs on Therapy 3:123 (Nov.) 1958. • 3. Robinson, R.C.V. Bull. School of Med., U. Maryland 43:54 (July) 1958. • 4. Sternberg, T.H.: Newcomer, V.D., and Reisner, R.M.: Monographs on Therapy 3:115 (Nov.) 1958. • 5. Clark, R.F., and Hallett, J.J.: Monographs on Therapy, 3:153 (Nov.) 1958. • 6. Smith J.G., Jr.; Zawisza, R.J., and Blank, H.: Monographs on Therapy, 3:111 (Nov.) 1958. • 7. Monographs on Therapy, 3:137 (Nov.) 1958. • 8. Howell, C.M., Jr.: North Carolina M.J. 19:449 (Oct.) 1958. • 9. Bereston, E.S. South. M.J. 50:547 (April) 1957. And whatever the topical corticoid need, a suitable Squibb formulation is available—Kenalog-S Lotion—7½ cc. plastic squeeze bottles. Each cc. supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base and 0.25 mg. gramicidin. **Kenalog Cream**, 0.1%—5 Gm. and 15 Gm. tubes. **Kenalog Lotion**, 0.1%—15 cc. plastic squeeze bottles. **Kenalog Ointment**, 0.1%—5 Gm. and 15 Gm. tubes.



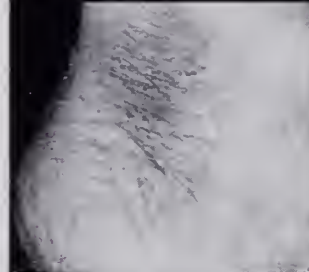
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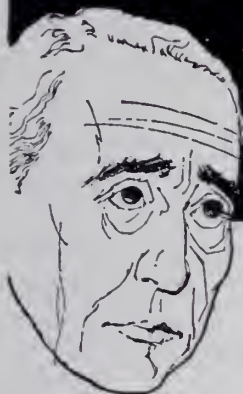
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DELAWARE STATE MEDICAL JOURNAL

Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31

MAY, 1959

NUMBER 5

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bibliography: (1) Carter, S. M.: *M. Clin. North America*: 315 (March) 1953. (2) Chao, D. H.: *Ibid.*, p. 465. (3) Combs, L. S., & Gilman, A.: *The Pharmacological Basis of Therapeutics*, ed. 2, New York, MacMillan Company, p. 187. (4) Davidson, D. T., Jr., in Conn, H. F.: *Current Therapy 1958*, Philadelphia, W. B. Saunders Company, 1958, p. 568. (5) Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955. (6) French, E. G.; Rey-Bellet, J., & Letourneau, W. G.: *New England J. Med.* 258:892 (May 1) 1958.



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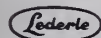
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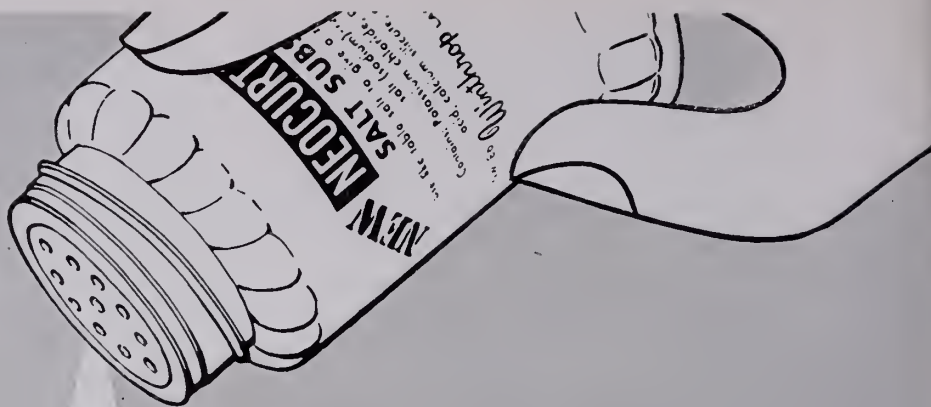
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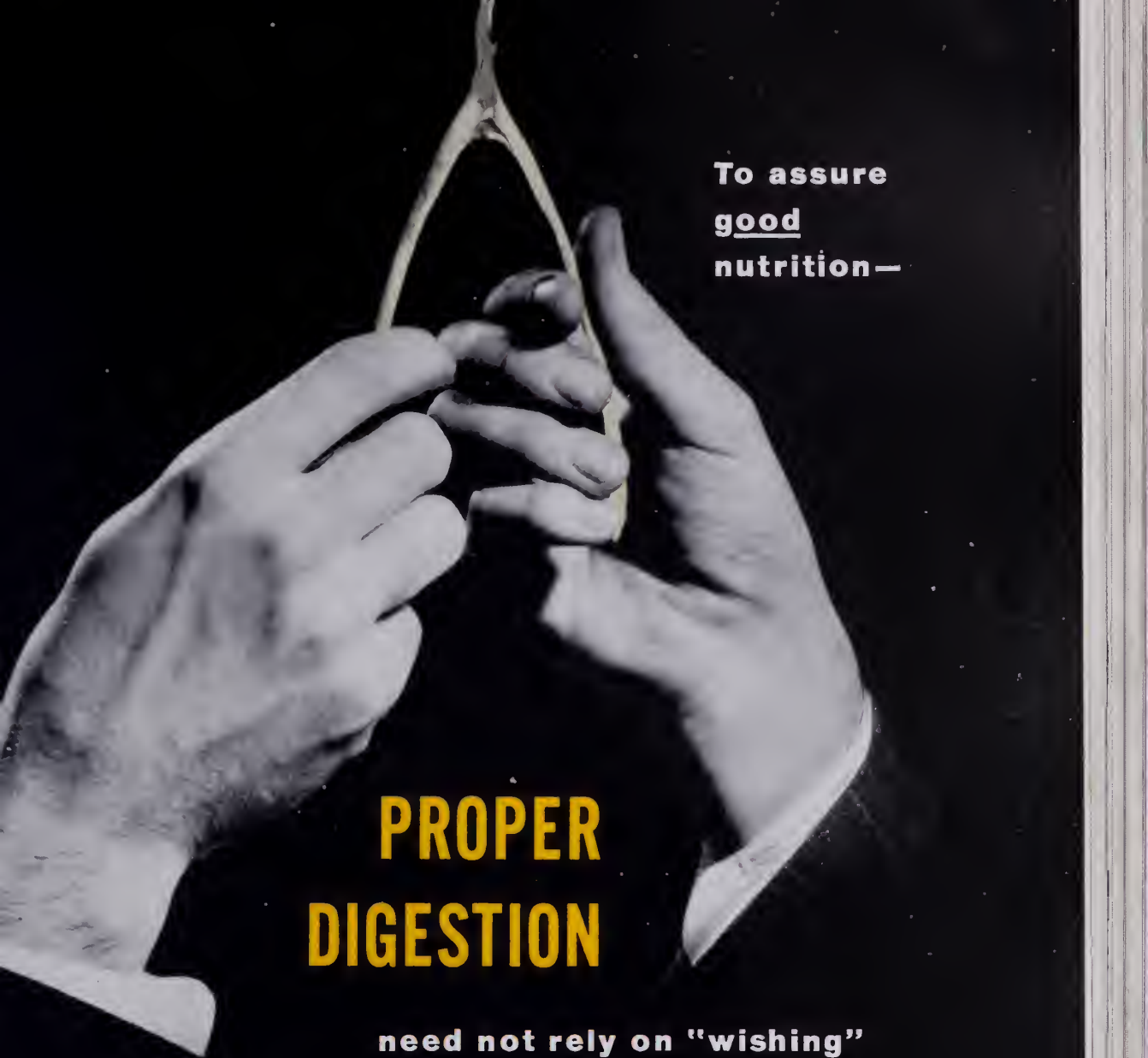
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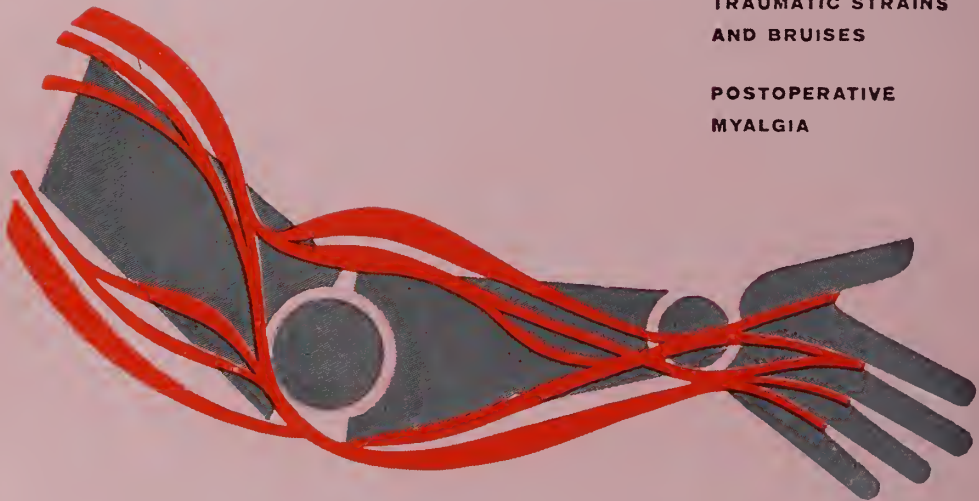
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BONADOXIN Tablets relieve nausea and vomiting of pregnancy in 9 out of 10, 1-7 often within a few hours.

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6 months to 2 years 1.5 to 2 cc.
2 to 6 years 3 cc.
adults and children over 6 1 tsp. (5 cc.)

2 or 3 times daily, in the tongue, in fruit juice or water

References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957. 2. Groszkoss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955. 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955. 4. Crawley, C. R.: West. J. Surg. 8:463 (Aug.) 1956. 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955. 6. Dunn, R. D., and Fox, L. P.: Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958. 8. Dougan, H. T.: Personal communication. 9. Leonard, C. L.: Personal communication. 10. Steinberg, C. L.: Personal communication.

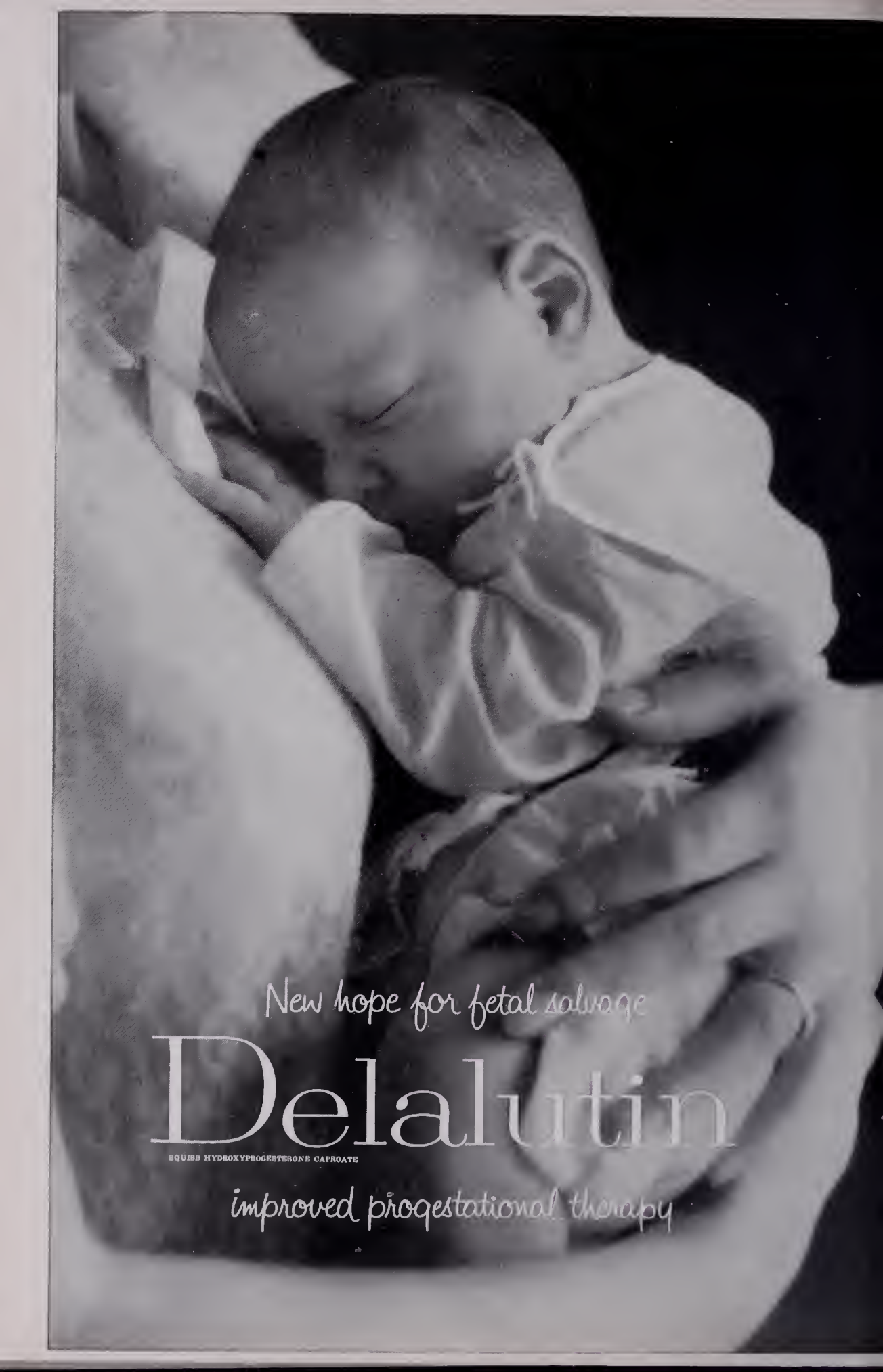


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¹Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, *Postgraduate Medicine*; 24:183, August, 1958.

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Boschann,² in a study of pregnancies with threatened abortion, found that:

- 37% of 73 pregnancies were carried to term without progestational therapy
- 64% of 42 pregnancies were salvaged by progesterone
- 83% of 73 pregnancies were salvaged by Delalutin

Eichner,³ found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.

108 (76%) of 142 babies of this birth weight survived without progestational therapy.

16 (100%) of 16 babies of this birth weight survived with Delalutin therapy.

A comparison study was made of a group of repeated aborters treated with Delalutin, and a group with a similar history treated with bed rest and sedation.⁴ Pregnancy salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active," well-tolerated and long-acting.

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- low viscosity makes administration easier

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References: 1. Reifstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

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- 4. No constipation • No acid rebound*
- 5. More pleasant to take*

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(brand of hydroxyzine)

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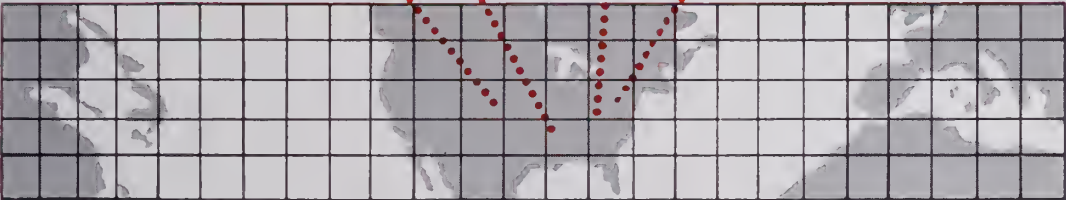
"Especially well suited for ambulatory patients who must work, drive a car, or operate machinery."³

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"ATARAX appeared to reduce anxiety and restlessness, improve sleep patterns and make the child more amenable to the development of new patterns of behavior."²

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- **References:** 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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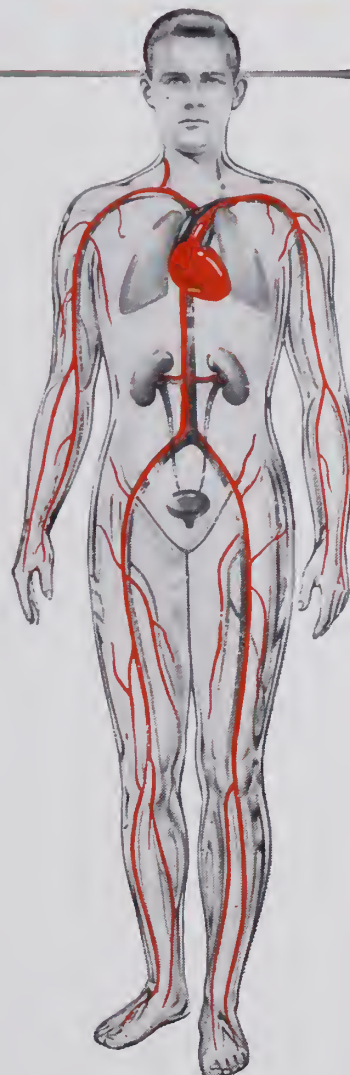
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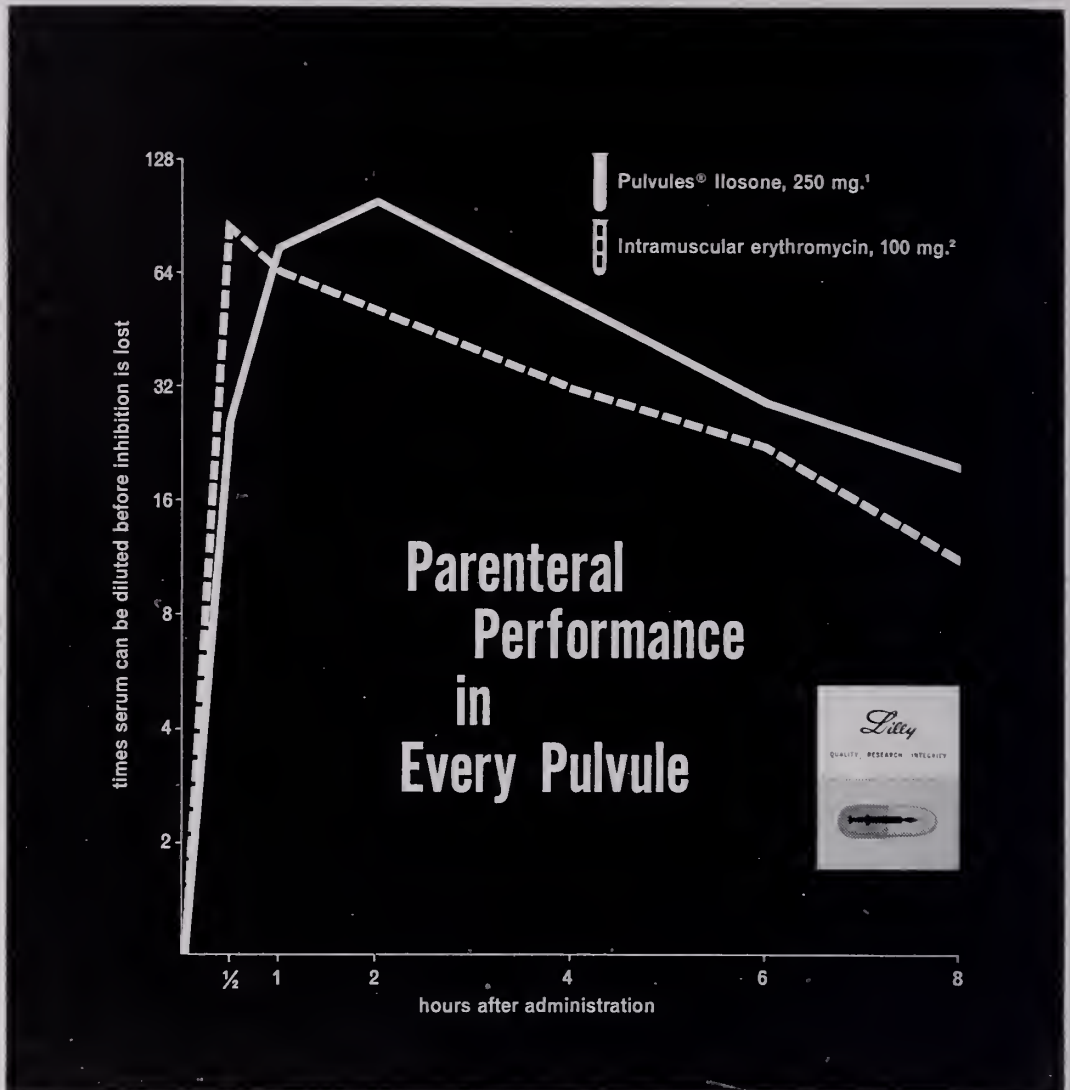
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1. Antibiotic Med. & Clin. Therapy, 5:609, 1958.

2. Data from Antibiotics Annual, p. 269, 1954-1955.

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SYMPOSIUM ON STERILITY AND INFERTILITY*

WILLARD F. PRESTON, M.D., Moderator, JOHN M. LEVINSON, M.D., MORTON KEYSER, M.D.,
RICHARD C. HAYDEN, M.D., JAMES J. GALLAGHER, M.D., and JEROME KAY, M.D.

This meeting is under the auspices of the Department of Obstetrics and Gynecology, but we have help from other services.

The problem of infertility has been incorporated into the practice of Gynecology and Obstetrics under the erroneous assumption that the female partner is most often at fault. However, this opinion is incorrect, as substantiated by all modern writers on this subject who emphasize the male responsibility in infertile matings. Although reports vary rather widely, it is generally conceded that possibly half of the childless marriages are due to ill health or abnormality in the husband. A plausible explanation of this error might be that the longing for motherhood is more highly developed in the female than the desire for paternity in the male. The wife is usually the one who comes to the doctor first, in regards to the couple's problem. The husband believes that he could not possibly be the barren one.

The first step in sterility studies is to interview the husband and wife together, then outline the course of the investigation. The physician should be realistic himself as well as with the couple. The study of infertility has become a broad problem in diagnosis, and all infertility problems are not solved. This point should be mentioned. All discovered causes of infertility can't be corrected, and even if they are, and there are no abnormalities preventing conception,

pregnancy may fail to occur. The couple should also be appraised of the fact that the proper study of infertility will consume three or four months, and that their consistent cooperation is necessary. A couple should not be considered a sterility problem until two years of married life with normal sexual relations without the use of contraceptives and have failed to achieve a pregnancy. Such a demonstrated disability of the couple in regard to their infertility is termed primary infertility.

Secondary infertility is that in which pregnancy has occurred on at least one occasion in the past, and the couple is unable to produce subsequent pregnancies after adequate trial. Since a thorough investigation of infertility in the husband and wife usually requires a considerable outlay of money, the couple should be made aware of this fact, and the survey should follow a definite pattern to avoid duplication. One should explain to the couple the proper time of the month for having fruitful intercourse. The period of ovulation is usually 12 to 14 days before the next menstrual period. A woman must be advised to desist from douching. It is the habit of many women to douche after intercourse for the purposes of hygiene, but by so doing the sperm are largely killed or removed.

General hygienic measures of diet, exercise, and rest should be outlined for both. A complete history and physical examination should be performed on the wife and the husband. Special detailed attention

*Presented at Scientific Meeting of Staff of St. Francis Hospital
December 2, 1958

should be focused on the woman's pelvic examination. A complete blood count, urinalysis, and blood test for syphilis should be obtained on both. The physical examination may reveal disease with undesirable complications should pregnancy occur. The health of the wife should be such that she not only be able to become pregnant, but that her health should be good enough to carry the pregnancy to a successful termination and be safely delivered.

The medical history should include questions concerning any previous pregnancies and complications of pregnancy. A record of the patient's past surgical operations may suggest that previous pelvic surgery with adhesions and post-operative complications might interfere with fertility. An appendectomy with pelvic peritonitis or an appendiceal abscess may lead to infertility through a salpingitis.

Menstrual history is very important. Amenorrhea, primary or secondary, affects the prognosis of fertility in great measure. History of persistent amenorrhea in the infertile patient may be the most significant symptom that the clinical history presents. The amenorrhea may suggest either a primary uterine disease, gonad failure, pituitary disease, or adrenal cortical pathology.

The patient's growth history should be elicited. Somatic and mental growth patterns are significant in regard to ovarian genesis, adrenal genetic syndrome, or bilateral cystic ovarian syndrome. Past disease, such as venereal disease, chronic infections, or general constitutional disorders, may play a part in the infertility problem. Uncontrolled diabetes or chronic nephritis in the female may be associated with infertility.

The history should include questions concerning vaginal discharge. Some forms of leukorrhea and cervicitis are spermicidal and need to be corrected before impregnation can occur.

The wife's occupational history may be important, and the husband's occupation may be important if it keeps him away from home for long periods.

The clinical history should establish the duration of infertility and how long the couple has been trying to achieve pregnancy. The frequency of sexual intercourse should be discovered. Clinical history of the male member should be thorough. It should include growth and development history, particularly in regard to the endocrine system. The history of delayed puberty, undescended testicle, excess obesity, may be significant. A past history of mumps, orchitis, injury or venereal disease may be significant. Occasionally, herniorrhaphy with strangulation of the spermatic cord results in infertility, unless the other testicle is in good working function.

Potency should not be confused with infertility. It should be explained to the husband that it is certainly possible for a male to be sexually potent, but sterile. Special laboratory studies should include blood protein bound iodine tests, basal metabolic rate, blood cholesterol for the male and the female, and under certain special circumstances, if the clinical history and physical examination suggest the necessity, titers and hormone levels may have to be determined. Glucose tolerance tests may be indicated.

Following the completion of the history and physical examination and laboratory studies, the next order of business is to investigate the local abnormality in the male and female, the causes of the infertility, and the treatment of the condition found and the recommendations. This phase of the infertility survey will be discussed by Doctors Levinson and Keyser in relation to the female, and by Dr. Gallagher, in relation to the male. Since psychiatric studies of infertile couples have indicated that some patients basically reject the idea of pregnancy, and manifest a psychic disturbance, Dr. Kay has kindly consented to discuss this phase of the problem.

The problem of sterility is very real to patients and doctors. The doctor may be sympathetic and complete in his investigation, and after all investigations and corrections are made, there will be some pregnancies and some disappointing results. Proper treatment can help 25% to 40% of

the childless couples. There are some couples who are able to go ahead and demonstrate their fertility after the doctors tells them that pregnancy is an impossibility. It is known that on other occasions when a diagnosis of sterility has been given, or on occasions when the couple has become divorced and remarried, that they demonstrate their fertility by having children immediately with a different mate. There is evidently some factor of incompatibility that is yet not understood.

Dr. John M. Levinson:

Many authors differ as to when a patient should be considered a candidate for infertility—some say six months, others one year. Certainly the age of the patient, the age of her husband, the length of time of the marriage, and any medical conditions that they may have should flavor the decision as to when they should be considered "infertile". The young married girl may well wait a year before she is disturbed about infertility, whereas the girl who marries in her thirties may be concerned about the matter quite early. An aging husband may make the problem more pressing. A patient with endometriosis should try to conceive as soon as possible in order to help remove her pelvic pain and also because of the fact that surgery may someday be necessary and thereby remove her chances of having a family.

I wish to use the word "infertility" throughout this discussion, rather than "sterility" because of the fact that even under the most formidable circumstances we occasionally see people get pregnant, and it is often most difficult to definitely state that a patient may never become pregnant.

The general history and physical examination should be done in a thoroughness that cannot be overemphasized. Childhood diseases, as mumps, may have an important bearing, and only by thorough questioning and by subtle examination can the various endocrinopathies be uncovered. The history of a ruptured appendix, the history of a pelvic inflammatory disease of gonococcal nature should be uncovered early in the workup. Various other questions that have

importance are often arrived at on subsequent visits when one has better rapport with the patient: namely, the frequency of coitus, the use of contraceptives, the use of douches immediately after coitus, and certainly one should probe to see that both the patient and her husband have an adequate understanding of the physiology of reproduction. Various books are available to the couple to give them a general understanding of the physiology of the problem to stimulate their understanding and cooperation. One should always secure previous diagnostic information on the patient from other physicians and clinics as the history may indicate.

The general physical examination should be conducted with emphasis on not only the breasts and the pelvis. The general body build of the patient often may tip one off to obscure endocrine disorders. Hirsutism may be an important finding. Examination of the thyroid is essential. The pelvic examination, then, should be conducted with thoroughness and further diagnostic studies as will be mentioned shortly.

After this initial history and physical examination, it is wise to discuss the problem in detail with the patient, and, if possible, her husband. If her husband is not available on the first visit, it should be suggested that he accompany the patient on her next visit to the physician. At this point it is wise to explain to the patient and her husband that 50% of the people who come for advice in this direction will become pregnant in the future. A certain number of these people, in spite of all we have to offer, will fail in their goal for achieving a family. The husband too often feels that the responsibility lies with the wife, but this is only half true. Recently, I had the experience of seeing a patient who had been studied by a physician in another community for well over a year and had a very extensive workup and felt very badly that she had been unable to achieve motherhood. It was only by having her husband seek urologic consultation that the truth of the matter became evident: that is, he was completely sterile, as confirmed by testicular biopsy. Therefore, I cannot over-

emphasize the need of having the husband seek help initially, as we know that 50% of barren marriages are the responsibility of the husband.

Returning to our consideration of the female, we have three main avenues of study. These are the cervical factor, the tubal factor, and the endocrinological factors usually centering about ovulation.

I. The Cervical Factor

1. *The position of the uterus and cervix*

The cervix should be checked to see if it is anteverted. This is a common finding along with a retroverted uterus. The significance of this may be that the sperm may lie in the posterior vaginal pool following intercourse and may not reach the external cervical os. Several common forms of treatment of this are the use of a pessary to hold uterus in an anterior position, hence allowing the cervix to dip into the posterior vaginal pool. Also, the woman should be cautioned to remain in the supine position following intercourse to allow the sperm to be in contact with the cervix. One recent advantage is the use of the "Fertilopak" which is nothing more than a sponge with polyethylene covering which may be inserted in the vaginal introitus following intercourse in the hope that this will keep the sperm in the vagina and in contact with the cervix.

2. *Cervical erosions*

Local disease of the cervix should be corrected. Having ruled out malignant disease of the cervix by Papanicolaou smears and biopsies as necessary, a variety of treatments may then be used. The most common are the use of the vaginal sulfa cream, silver nitrate applied to the cervical erosion, or in cases of deeper infection by the use of the cautery.

3. *Endocervicitis*

This is a very common problem, and on microscopic examination of these secretions, a great number of white blood cells will be seen. This is usually accompanied by a rather thick tenacious mucous, and antibiotic therapy seems to offer little help. The common therapy for this condition is hot cautery applied to the endocervical canal.

This should not be done too vigorously due to the dangers of cervical stenosis. If, in spite of cervical cautery, a thick, tenacious mucous remains which will probably prevent migration of the sperm in the cervical canal, one may use Diethylstilbestrol, 1 mg. daily for a period of twenty days to see if this will help liquify the secretions.

4. *Incompetent cervix*

This entity, although it has existed for many years, is becoming more apparent, and a great deal of work has been done through the various clinics. The diagnosis is often difficult, but is classically seen in the woman who has lost three or four pregnancies due to a sudden gush of amniotic fluid in the second trimester of pregnancy followed by painless contractions and abortion. When they diagnose this condition by the aid of a salpingogram, by the use of the so-called "balloon test" as determined by x-ray, or by an endocervical os that will allow a sound of more than 7 mm. in diameter to be passed with ease into the uterine cavity, surgery is in order. Salvage rates of about 75% or more are reported by various clinics.

5. *Cervical mucus*

The cervical mucus cycles in its various characteristics along with the menstrual cycle. Before and after the mid-cycle of the period, the mucus is rather thick, tenacious, and scanty in amount assuming no infection is present. During the several days about the time of ovulation there is a five-fold increase in the amount of mucus discharge from the cervix. In the normal state it is a rather clear, translucent material with great elasticity. This is demonstrated by removing some mucus from the cervical canal with a long forcep and separating the mucus to form a long thread, several centimeters in length. This has been called "Spinbarkeit" by the Germans who first noted this phenomena. Microscopic examination of this mucus that has dried on a slide and in the unstained preparation will disclose a so-called "fern leaf" configuration. The etiology of this phenomena is not completely understood, but is related to the sodium chloride content and the estrogen level at this time of the period. This pretty configuration of structures that appear as many leaves, fern-

like in type, will disappear when Progesterone has entered the menstrual cycle. Therefore, by observing a "good fern test", we have some evidence that we are having ovulation.

The so-called "Huhner or Simm's-Huhner" test has been known for many years. It is defined in various ways by many different authors, but essentially is as follows. If one examines a sample of the cervical mucus several hours after coitus, one should expect to see 10 to 15 motile sperm per low-powered microscopic field. This gives us some idea that the sperm has headed toward its goal of entering the uterine cavity.

In addition to the use of Estrogen for "hostile cervical mucus" as I mentioned earlier, various preparations have been developed. One is put out by the Ortho Company in the form of Nutradiscs. This is a tablet high in glucose that is used for douching in the hope that it will provide nourishment for the sperm, if used just before intercourse. If the cervical mucus is extremely acid, one may prescribe sodium bicarbonate douches to be used in the precoital period.

II. The Tubal Factor

Clinically, we have two methods to study the tubal factor, that is, by using the Rubin test and by use of salpingogram.

1. *The Rubin Test*

This is performed by inserting a cannula into the cervical canal and passing carbon dioxide into the uterus and through the fallopian tubes. If this is achieved, the patient will complain of pain in her side and often referred pain from the diaphragm into the shoulder region. By auscultation at the time of passing the carbon dioxide, one may often hear a bubbling as it passes through the tubes. If there is tubal blockage, as demonstrated by the inability to pass the gas into the tubes, the patient should be tested on a second visit because of the possibility of tubal spasm. Confirmation should also be sought by use of salpingograms, to see if organic pathology is the cause.

2 *The salpingogram*

This is best performed by taking an x-ray

of the pelvis before passing dye into the uterus, a second picture after several cc. of dye have been passed into the uterus, and again some hours after the passage of the dye to see if the fallopian tubes are patent.

It is interesting that both the Rubin test and the salpingogram appear to be therapeutic as well as diagnostic. There are many series of cases reported where approximately 35% of patients so tested will achieve pregnancy following either one of these procedures. It may be assumed that there has been an element of spasm or there may have been some debris or mucus in the tubes and by removing this, the ovum is allowed to travel a normal course. It is also interesting to note that in spite of tubal blockage, as reported by both the salpingogram and Rubin test, a certain number of patients will become pregnant. This is very hard to understand.

III. The Endocrine Factors

These are many and the problems are far from solved.

1. *The thyroid gland*

The empirical use of thyroid for infertility is a classic. It is better to first consider by careful history and physical examination whether there is a problem of thyroid dysfunction. If this is suspected, a protein-bound iodine test should be done, and, I might add, should be done before a salpingogram in order that the results will not be abnormal due to the use of the iodized oil. For confirmation, the B.M.R. and serum cholesterol may be significant. One may find the patient is in the so-called "hypometabolic" state, that is, she may have a normal P.B.I., a very low B.M.R., and a high serum cholesterol. In this situation, the use of thyroid or the use of Cytomel may be beneficial. There are recent reports that by the use of Cytomel in doses of 25 micrograms daily for a period of several months, the hypometabolic state may be corrected, and this may lead to fertility. One may find the hyperthyroid state to exist and surgery and medical therapy may be needed.

Tests for pituitary function, estrogen and progesterone assay, and assay of 17-ketos-

teroids are available in this community and should be used as necessary. These tests are expensive and often very valuable, but again, a careful history and physical examination will reveal their need. Cases that were considered quite hopeless just a few short years ago can now be diagnosed and often treated. The patient with adrenal hyperplasia that may be diagnosed with these aids may be treated now by both the use of cortisone and/or surgery and achieve pregnancy.

The Stein-Leventhal syndrome which may be diagnosed by the aid of these and other tests is now being seen more commonly and is amenable to therapy and most of these patients can now achieve pregnancy. One of the greatest problems and the one that must be studied in most every patient is that of the ovulation pattern. There is no simple method to determine accurate ovarian function and all our tests here are indirect evidence of ovulation. Only by laparotomy and observation which can be done in the surgical laboratory can one be sure of ovulation. Again, the history and physical examination are so important. The patient who has the classic Mittelschmerz or mid-cycle pain, the girl who has severe dysmenorrhea, the girl who has the increased cervical mucus that shows a good firm pattern and good Spinbarkeit is usually ovulating. Additional evidences are those of occasional spotting at mid-cycle and evidence of normal cyclical pre-menstrual tension. Office biopsy of the endometrium may be done from the 23rd to the 26th day of the cycle, and, if a secretory endometrium is found, it implies that there is a normal corpus luteum and by hindsight we can say that ovulation has occurred.

The vaginal smear for cyclical changes in endocrine function also may demonstrate ovulation.

The "fertility testor" as developed by Dr. Joseph Doyle of Boston is an ingenious device similar to a vaginal tampon, the end of which contains a piece of "Tes-Tape". If this is inserted in the vaginal canal daily, characteristic color changes are seen at the time of ovulation. This is a further aid for

calculating the time of ovulation and is now commercially available.

However, what one needs in clinical practice is a simple, inexpensive method, and that is achieved by the use of the basal temperature curve. The patient is instructed to take daily basal temperatures for a three-month period. Classically, at mid-cycle, there will be a $3/5$ of a degree or more rise which is sustained for the remainder of the cycle. This is due, it is felt, to the thermogenic property of progesterone and implies that the patient has ovulated about the time of the temperature rise. By having the patient take her temperature and accurately recording it for this length of time, we may disclose when she is ovulating and hence suggest when is the best time for intercourse in the hope for achieving conception.

In spite of temperature curves, many cases do not fit in the usual pattern and ovulation may only be plotted by use of a so-called Farris rat ovary hyperemia test. This is readily available in Philadelphia. There is a rough rule that seems to be helpful based on Dr. Farris' research as follows: The patient is asked to determine how often she menstruates accurately by the calendar for a three-month period. The length of the average menstrual cycle is then calculated, and this number divided by two, so that in the average 28 days' cycle this would imply ovulation on day 14. It is then suggested that intercourse occur daily for a three-day period starting two days before ovulation with the stipulation that abstinence be practiced for five days preceding this. This schedule may then be moved up in successive three-month periods by one day in the hope that the ovulation period will be straddled.

A not inconsiderable number of women may be troubled with oligomenorrhea, polymenorrhea, or menstrual periods at grossly irregular intervals. Here again the empirical use of thyroid may be of help. Cyclic therapy with the various estrogen and progesterone preparations may help stabilize the cycle, and hence help toward normal ovulation. However, in spite of the many preparations available many patients fail to respond

and once treatment has been withdrawn the erratic type of menstrual cycle may return.

The induction of ovulation by intravenous estrogen at mid-cycle or by injections of chorionic gonadotrophin is reported. The results are sporadic and leave much to be desired. Induction of ovulation by low dosage of radiation to the pituitary and/or ovary are often successful. In the most refractory cases, however, these methods have fallen in disrepute in recent years due to the evidence of the genetic damage that irradiation therapy may cause.

When both husband and wife appear entirely normal and conception fails to occur, consideration should be given to psychiatric factors of infertility. I believe Dr. Kay will cover this respect of the problem for you later this evening.

In spite of our incomplete knowledge of the physiology of reproduction, much can be achieved. Many important pathological conditions may be diagnosed and corrected; conception may be speeded up, and newer methods of diagnoses and therapy every year offer further encouragement. When all else fails, a couple may be helped toward adoption to fulfill their desire for parenthood.

Dr. Morton Keyser: I have just one small aspect of infertility to discuss. When one runs into pathology that can be corrected surgically, the solution is very simple. Unfortunately, this is only a small portion of all infertility cases.

My main reason for discussing this is that the last three cases I had with surgical pathology are pregnant at the present time. Doctor Levinson mentioned the Stein-Levanthal syndrome. I have two patients that perhaps might be classified as such, although, they do not fit the standard textbook pattern. The first was age 35 when I first saw her. She told me she had not had a period for over a year. Previous to that, in another study, she had had an occasional period for two years whenever she received various hormones, and when she left there, a year passed before she sought out any further help. During that year, of course, there were no periods. She had one child in

1953. Her difficulty started after that delivery. We gave her a complete infertility work-up; her studies were all normal. The PBI was normal and her general physical and laboratory work was normal. Her husband was normal. Her gonadotrophic hormones, and her 17 ketosteroids were within normal limits, although, I believe in Stein-Levanthal syndrome, they are frequently abnormal. Her estrogen level was within normal limits. After watching this patient for a year, (I knew that her ovaries were palpably enlarged) I was precipitated into operating on her. Like a number of my other patients with this syndrome she was suddenly discovered to have rather severe left lower quadrant pain. I did a wedge-resection on both ovaries. The laboratory report confirmed the clinical impression that the capsule of both ovaries were quite thickened, and both ovaries had many follicle cysts. Her recovery was as usual, and she started menstruating regularly every 28 to 30 days, with a period one month after surgery. The operation was performed September 13, 1957. Her last period was May 5, 1958. Less than a year later she was pregnant. She is still pregnant, of course, due in February. This is one illustration of a surgical solution to a specific problem.

The other patient is somewhat different in that her menstrual periods were irregular, occurring anywhere from 28 to 60 days. This started following her first delivery, January 28, 1955. I had first seen her January 25, 1954, one year before her first delivery because of infertility. She had a histosalpingogram, endometrial biopsy, and so forth, and incidentally, this is one of the patients that got pregnant after the salpingogram. She delivered in 1955. Her periods had become irregular immediately after her delivery. She also had palpable enlargement of both ovaries and considerable pain. This time, I was also precipitated in doing surgery because of the pain. It was the same story, thickened ovaries, many many cysts in both ovaries; wedge resection was done and recovery with menstrual periods once a month thereafter. Her operation date was May 14, 1957. Her last menstrual period was August 22, 1958. That's a little bit better than a year that she be-

came pregnant. She is, of course, still pregnant.

The third case I have is a patient who had infertility, but once again, I operated because of the pathology. She had a myoma which was more than twice the size of the uterus itself and had encroached upon the endometrial cavity, and which I think, was responsible for her menstrual irregularity. I operated on her for that reason. She is now pregnant. Because I entered the endometrial cavity, I feel I must do a Casarean section.

I have no cases that are obvious such as tubo-obstruction corrected by surgery. The few cases that I have seen in the last few years, and there are not many, have refused to be operated upon.

Dr. Preston: So far, from the standpoint of gynecology, the subject has been very well discussed. I was wondering if we could ask Dr. Hayden if he would say something about tubal occlusion and the treatment surgically. It might be unfair because he wasn't prepared for it, but I think he would tell us something about that.

Dr. Richard C. Hayden: The treatment of tubal occlusion in infertility is very poor—about 50%, and actually that is in a series of two cases. If you have a hundred women whom you know have a tubal occlusion and decide that they need some type of plastic surgery, your percentage of women becoming pregnant is about 5%. That means a normal full term pregnancy.

Years ago, they used to use catgut, black silk, and other media to keep the tube open. Since the advent of polyethylene tubing, tubal patency has been increased. The polyethylene tube is slipped through the end of the tube, down into the opposite end and out through the uterus, and through the cervix. It is left free in the vagina and you normally leave it there approximately four to six weeks. The difficulty that arises is that many times through peristalsis of the tube it will be brought down before that time. At the end of this six weeks you can do a salpingogram to find out if the tube is open. Some men will wait two or three months before this is done. Actually, I don't

think it makes too much difference. I feel in six weeks time healing has taken place and it will also help to keep the tube open by injecting radio-opaque material. The percentage of success, of course, is very low. It came into prominence about five or six years ago, and it gradually has been used less frequently because of the slim chance of success.

Dr. Preston: After the gynecologist is finished with the female partner, we then look to the urologist to see what he can do about the male.

Dr. James J. Gallagher: In most series that are reported in the literature on infertility, it has been emphasized that approximately forty to fifty percent of the difficulty lies with the male.

The male infertility patient requires two visits to the office. On the first visit, a careful history, which includes sexual history and past medical history especially, should be taken. This is followed by a physical examination which, of course, is focused primarily on the genital organs.

An explanation of how the semen specimen is to be obtained then follows.

During the past year I have been using the cervical spoon of Doyle to procure the specimen. These spoons are obtainable from Milex, 4334 Forty-third Street, Long Island City 4, New York, for one dollar each. With each spoon comes a set of instructions so the discussion is an amplification of these. Briefly, this is how it is done. The husband is instructed to insert the spoon just prior to intercourse. After intercourse, the wife lies supine for thirty minutes. The spoon is then withdrawn and the contents placed in a small open-mouthed bottle. The thirty-minute time limit is necessary for liquefaction to occur in the ejaculate which is usually a gel when it is first emitted. There are two precautions: first, the spoon must be very carefully removed so as not to spill the semen, and secondly, the bottle must be absolutely clean and free of any chemical. On the second visit, the semen analysis is done.

In a series of 33 patients examined, there were 22 normal semen analyses and 11 in

which the sperm count was reduced below normal. In patients with normal counts, the average sperm was eighty-five million per cubic centimeter. It is interesting to note that in six of the patients who had abnormal count, the examination of the testes was normal. This proves a point that subfertile men are not necessarily subvirile.

When the sperm count is normal and the morphology and motility are also normal, the emphasis can then be placed on the female partner, the examination of whom is much more difficult.

In those men whose sperm count is reduced below forty million per cubic centimeter, the sperm count is repeated several times, abstinence being practiced at least two weeks prior to the examination. In those patients whose sperm counts are still low, it is recommended that they practice abstinence and have intercourse only at the time of ovulation. There appears to be some evidence in the literature which indicates that subfertile men, by abstinence, may increase their sperm count. In this small series, there are several patients who have increased their counts by approximately fifteen to twenty million, utilizing abstinence. In those male patients who are azoospermic or oligospermic, testicular biopsy is recommended. These are done on an out-patient basis under sodium pentothal anesthesia, requiring only a very short convalescent period. The testicular biopsy is done to distinguish between those patients in whom there is an obstruction of the vasa or in whom there is a congenital defect of the conducting pathways for the sperm and those in whom there is an endocrine deficiency. In those patients in whom an endocrine deficiency is suspected urinary gonadotrophic hormones should be estimated in order to eliminate a pituitary factor.

If the testicular biopsy has indicated that there are spermatogonia and that spermatogenesis is present but has been depressed, the use of the rebound phenomenon may be considered. The successful results in the series of persons who are using the rebound phenomenon are reported to vary from seven to twenty-one percent. The technique is to

use seventy-five milligrams of testosterone intramuscularly twice a week for eighteen weeks. Repository testosterone may be used, two hundred milligrams once a week, for fifteen weeks. When using the rebound phenomenon, ordinarily the semen is examined every six weeks. The sperm generally disappear after twelve weeks and if the sperm were going to rebound, this usually occurs in the fourth or fifth month following injection. The surgical procedures used to correct infertility in the male generally offer a fair degree of success.

Many couples when presented with this problem would rather adopt children, since the chances of success in many of these procedures are so low, even after much effort.

In conclusion, therefore, we might say that the man should always be examined first. In my own practice, the cervical spoon of Doyle has been found to be extremely useful in obtaining semen for analysis and the treatment for male fertility is at the moment very difficult.

Dr. Preston: The male partner at times because of religious convictions is reluctant to consult a urologist because he believes that a specimen obtained by coitus interruptus or a masturbation specimen is sinful. For this reason Doyle's cervical spoon has been given the green light as far as the test is concerned for those with these religious convictions. They can be assured that this test is licit.

The next phase Dr. Kay has consented to discuss. I think all of us have had the experience—particularly when you try to work up these patients and can find nothing wrong with either partner and advise that they resort to adoption—to find it not uncommon that before they sign the adoption papers and come in for examination you find them pregnant. There certainly must be some tensions that might be a factor in the problem of infertility as well as other psychiatric disorders.

Dr. Jerome Kay: I was pleased to be asked to make some comments here tonight because all of us know that the psychiatric factor certainly plays a role in infertility.

Social workers and physicians alike have made the observation that many an infertile woman after adoption finds that she becomes pregnant. There is a remark made that very shortly after the first visit to the infertility clinic that they seem to conceive without any real studies or tests being done, except for one or two preliminary interviews.

I think we have to stress, however, that we must have an integrated approach to this situation—a psychosomatic approach. It seems paradoxical that individuals who are consciously desperately anxious to have children, because of deeper unconscious attitudes and conflicts, defeat their very purpose and remain infertile. And yet these observations, I think, have been made by all of us. One of my patients with difficulties in his sexual functioning lives in fear that he will contract venereal disease or get a young woman pregnant. He developed psychosomatic visual symptoms of a rather interesting nature after sexual intercourse. Within 24 to 48 hours retinal changes occur which are many times purely transitory. He states, "You know, Doc, my trouble is that I can't do what comes naturally, naturally". I think this does describe quite well his attitude and the results that occur from this.

We do know that there are some five million childless couples in the United States, most of whom it is estimated are childless from infertility, and not from choice. It is often thought that perhaps there is a connection between symptoms of frigidity, vaginismus, dyspareunia, on one hand, and sterility on the other. The connection is certainly far from clear. I'm sure we have all seen women who have experienced absolutely no conscious sexual interest of any kind who are quite fertile. There is no absolute relationship, but the question remains whether the same factors that influence frigidity may also lower fertility.

Lack of a total orgasm which goes with frigidity might possibly impair the involuntary part played by the pelvic apparatus in insemination. Lack of proper orgasm might cause secondary local congestion and thus lead to impaired function in the pelvis.

Many gynecologists believe that pelvic congestion may result from sexual excitement, not discharge and orgasm. This point might be controversial.

The psychosomatic point of view suggests that tensions of day-to-day living affect our normal physiological functions, including those of reproduction. Such problems of sharing an apartment with the in-laws, embarrassment at the time of sexual intercourse, which is often quite unrealistic but due to the person's own sensitivity, financial insecurity, ideas of infidelity, and so on, seem to affect the ability to conceive, while peace of mind and relaxation apparently promote fertility. It has been said that vacations with freedom from responsibilities often lead to greater potency, less frigidity, more frequent intercourse, and, in turn, conception.

The act of seeking medical advice often leads to conception before studies are even begun. There is a condition, because of the interest, of course, keeping a temperature chart which is described as "temperature-chart phobia," in which the husband and wife develop a tremendous amount of anxiety, watching the temperature curve, charting the situation, and they have the feeling that it is absolutely necessary now that coitus be performed at a particular time and this sometimes leads to more difficulties than it does to help.

Infertility may be absolute on one hand, in cases of pelvic and glandular abnormalities due to the many varieties of organic disease. Other forms of infertility are relative, depending on a great variety of organic, metabolic, and psychic factors. So far as psychodynamic motivations of sterility are known, the same conflicts which cause depression or anxiety in one woman may be elicited in connection with sterility in another. The women who suffer from functional sterility are unaware of their anxiety and their hostilities in regard to childbearing. They may go on asserting their unambivalent attitude toward motherhood, whereas, paradoxically, underneath it all they are quite hostile and terrified of the idea of conception, carrying a youngster on to term and delivery.

Functional sterility has many variations. In some cases, it may not amount to a real psychosomatic symptom because there is no somatic change. For example, a woman might appear sterile when her desire for intercourse is suppressed during the fertile period and coitus takes place only during the infertile stage of the cycle. I have a man patient at the present time who suffers from impotency and almost at the time that his wife is fertile. She is a nurse, and he is a Ph.D. chemist. They have read medical books and are well aware of sexual physiology. The time that he suffers his impotency is at the time when his wife is ovulating. He is perfectly capable of functioning just on either side of the period. She is quite angry about this. He states that she is "reading" his mind, that she can tell that unconsciously he does not want to become a father, and so on. He is quite disturbed about this, because he states he does want to become a father.

Somatic changes leading to infertility might be a shift in the cycle so that ovulation may occur during menstruation when coitus usually does not take place, a greater organic compliance in cases where sterility is caused by spasm of the fallopian tubes and their occlusion. And also in those cases where psychosexual conflicts lead to a suppression of ovarian function so that ovulation does not occur.

We have to have an integrated approach, as I mentioned before. Of course, I think that there is a whole field of forces that operate upon the infertile couple. Factors that are responsible for psychosomatic infertility are as follows: behind the conscious desire for pregnancy is a deeply repressed wish not to get pregnant. It is usually due to markedly emotional insecurity and immaturity associated with the fear of motherhood and rejection of the feminine role. These conflicting emotions are mediated through the limbic system (rhinencephalon) which automatically modulates autonomic somatic behavioral and endocrine mechanisms that affect the physiology of ovulation, implantation and even viscosity of the cervical mucus (so-called "hostile cervix"). Secondly, there is the unconscious

awareness of ovulation and the conscious avoidance of coitus. We find this quite often if we follow our patients carefully. Thirdly, a transitory or persistent tubal spasm due to autonomic imbalance is another defense a woman has against pregnancy. The endocrine glands are considered basically the end organs of the central nervous system in this functional sense and they do not function automatically. They are stimulated through the senses, the primary signal system via the cortico-hypothalamic-pituitary-adrenal axis also through the complex system of internal feed-backs in the tissues and target organs, so called "secondary signal system". Now, these two affect the higher neural centers. Thus, the follicle stimulating hormone and leuteinizing hormone, ACTH and other gonadotropins, are regulated through our endogenous and exogenous rhythm, mediated by the limbic and reticular activating system. These are the areas that are responsible for behavioral subliminal projections. Alterations in gonadotropin output affect courtship, sex interest, motherliness, ovulation, ester behavior, and even produce tubal spasm.

In the broadest sense, I think we can look in terms of disturbance in interpersonal relationships as having a definite effect upon fertility. Certainly those people who are unable to form any close or sustained relationships so that they are eventually unable to marry, are not carrying on their share of the burden as far as procreation of the race is concerned.

Psychogenic reproductive disturbances in the male include impotency, premature ejaculation so that ejaculation occurs even prior to penetration and coitus reservatus, so that there is no ejaculation after prolonged intercourse. In the female, dyspareunia, vaginismus, and contractions of the vagina with expulsion of the semen have been seen in the same way to influence fertility mechanically. Then, of course, we have the subtle, unconscious personality difficulties: people who seem to unconsciously defeat the very purpose.

Now, I've already mentioned, as far as the mechanism of functional sterility is con-

cerened, spasm of the fallopian tube, and I should mention emotional influences on the menstrual function. Twenty-three out of eighty-five amenorrheic women were studied. Disturbances in ovarian function occurred in these people after marked psychological stress, such as sudden death in the family, infidelity on the part of the husband, incompatibility, and violent quarrelling or sudden departure of the husband to war service. Previous menstrual history in these women is normal, and no evidence of organic disease was found in the entire group. Laboratory studies revealed failure of ovulation in all cases with evidence of deficiency in the estrogenic hormone. I think it was said in a parody that "what this country needs is a good five-cent ovulator", and I guess this is true. In many other patients, psychological problems suppress ovulation, although menstruation does occur.

Now a third mechanism utilizes a stress gauge which records human non-gravid uterine contractions: a man by the name of Vickers demonstrated that the emotions may effect uterine physiology and in this way play an important role in infertility. He gave as an example a woman who had been infertile for a long time, having taken a recording with a normal uterogram on her, she was told that pregnancy was highly improbable. The uterogram showed a rather dramatic change, hypertonic movements, dysrhythmic contractions, and the intra-uterine pressure reached 240 mm. of water and the normal at the height of the contraction is considered to be 60. Perhaps it is not stretching the imagination, then, to conceive that a uterus reacting in such a manner is one in which sperm migration is likely to be impeded.

Endometrial changes affecting fertility have been discussed at length in many articles, but an inadequate development of the endometrium during the luteal phase of the menstrual cycle appears to be a casual factor in infertility in many women. This work was done at the Free Hospital for Women in Brookline, Massachusetts, and Harvard University. They believe that physiological hyperplasia of the endome-

trium associated with early pregnancy before or at the time of a missed menstrual period occurs when the implanted ovum is normal or abnormal. Endometrial dating correlates with clinical post-ovulatory dating as shown by basal temperature records period occurs when the implanted ovum is The possibility, then, of the endometrium reflecting deeper unconscious emotional factors certainly is possible.

Scant attention has been paid, on the other hand, to the effect of unconscious conflicts over fatherhood. Effects on sperm quantity have never been clearly demonstrated. Sperm quantity and motility may be normal; yet if one or more enzyme systems in the sperm are missing as the result of a faulty protein synthesis, the characteristic structure of proteins which determine the size and shape of the cell and the functional protein which regulates metabolic activity, the genetic organizer and material necessary for normal fertilizing power will be absent.

In studying the psychology of the functionally sterile woman, many things have been observed. I've only mentioned women who've conceived after adoption, after medical consultation, career women who give up jobs and then find that they have become fertile, and social factors, such as the fear of performing coitus because they will be overheard if living with parents. I should add the idea of douching for cleanliness immediately after coitus, because a woman has been brought up with the idea that sex is a dirty procedure and she wants to cleanse herself of this dirty material, and failure to seek help with the problem of sterility because of emotional attitudes (a man will often find he will have a problem in accepting the fact that he even has a problem, and will be rather reluctant to more often in women who become pregnant. seek help). For example, one of our colleagues years ago was one of the first physicians to point out that the human male might have something to do with infertility. When he produced his objective scientific data, he was accused by his male medical colleagues of "unethical medical practices". Even physicians have a certain

amount of feeling about this. I remember, too, one of the questionnaires that was asked freshmen at the University of Pennsylvania Medical School. I won't mention the class (it wasn't mine) but a very high percentage of the men did masturbate and examine their semen under the very handy microscope anxiously looking for large numbers of active spermatozod. These were anonymous questionnaires with many other attitudes involved, but this point did come up in the evaluation. We all have a certain concern about our potency and our virility.

It was found also in studying infertile women that a large percentage are aggressive and domineering and assume a masculine role in marriage. They are likely to have psychogenic barriers to conception. Obviously, there are many women of this nature who do conceive. In reviewing body temperature charts with infertile women, some gynecologists have suspected that part of the attraction of keeping the record month after month is the assurance that pregnancy has not occurred. Sometimes these women seem very pleased when they are told that the sperm analysis of the husband has been displayed as the cause for the sterility.

Other personality studies in women in surveys in infertile women reveal that motivation for pregnancy is not normal, but seems to merely satisfy the husband's demand, or to patch up a shaky marriage, or the woman wants to be like other women and have children, to have something of her very own: to have somebody to love and someone who would be able to love her and to show her mother how to raise a child, a rebuke to her own mother for the misdeeds that mother did to the particular woman involved. Also, it is revealed that there were unhealthy reasons for the marriage in these infertile couples: early impulsive marriage based on guilt over illicit sexual relations, a belief that the woman was pregnant so that they had to get married, and often this was merely a functional problem, frequent marital discord occurs.

Preponderant references to attitudes denying sexual, menstrual, and reproductive roles with many instances of genital and

menstrual disturbances were seen in these infertile women: vaginismus, frigidity, sexual avoidance, dysmenorrhea, irregular cycles, and bleeding disorders of functional nature. Disturbances in the intrafamilial relationships and emotional security in childhood in these women and an impaired identification, either a denial of the mother image on one hand, or an imitation of the male role on the other.

Studies reveal that psychogenic factors are present in most of these patients, whether organic pathology was present or not. The line of demarcation between organic and psychogenic sterility becomes rather indefinite when one considers the failure to ovulate and tubo-spasm due to psychological tension or defects in the lining of the uterus, hostile cervical secretions, or faulty sperm production. Dr. Ford in Philadelphia used an inventory questionnaire and more or less identified two different types of infertile women. One, I've already mentioned, is the aggressive, competitive and masculine type of woman. The other is the passive, dependent type of woman, who tends to establish a child-parent relationship in the marriage and is, in a sense, not really grown up at all. Reproductive functioning was either totally or partially suspected as a result of the primary emphasis on the incorporative gratification of these women. The last thing such women really desire was weight reduction, normal ovarian function and fertility. These use many rationalizations for not dieting and taking medication. They break office appointments and also all other kinds of other resistances. Informed that they are not ovulating, they show no concern, and this is indicative of their ambivalence toward motherhood.

As far as the treatment is concerned, Buskin and Sherman independently reported that the un-treated group of infertile patients being used as controls may conceive just as readily as those treated by all forms of therapy.

On a long range basis, I think, certainly in terms of mental health and a preventive type of thing, that early training in childhood about the acceptance of the sexual

role, proper sex education, healthy attitudes toward sex and menses, and so on, can help in the long run. About 35% of infertile women get pregnant soon after treatment is begun. The enthusiasm of the treatment seems to decrease the anxiety of the couple, and, according to some men, a decrease in circulating epinephrine will help infertility, and an excessive quantity of epinephrine seems to cause infertility indirectly.

Dr. Kroger of Chicago states that a selective denervation of proximal tubes and cervix readily cured infertility due to tubal spasm. I would like very much to know how we can decide which of our patients have this problem and which cases we can choose. He speaks rather enthusiastically of this, but I have some question as to how one would actually select the patient. The fallopian tubes have been referred to as the most hysterical portion of a woman's anatomy and they relax following sympathomimetic drugs and hypnosis.

Good history taking and an understanding of the psychosexual development of these infertile women will reveal the cause of the pertinent psychopathology. Isolated psychological factors per se do not account for psychosomatic infertility. It is of the utmost importance for a woman to comprehend how and why her faulty attitudes influence the organism to respond to psychic stimuli. Kroger states that in addition, he used hypnosis, not only to establish menstruation in amenorrheic women, but also to enable many tense individuals to relax after coitus to alleviate tubal spasm. I think that we all have to work together in this problem—psychotherapy of those men and women who have obvious disturbances, who are organically without any disease,

and whose basic underlying attitudes are rather antipathetical as far as pregnancy is concerned—these people can be helped.

I remember a rather humorous letter. I got from a couple who had seen me. The woman was rather frigid, had been infertile for a while—she had improved remarkably. The couple moved to the Midwest and I received a letter from the husband who said (and these may not be quite his exact words) that his wife is pregnant and he attributed this directly to me. It was very gratifying to get such a letter. . . . Superficial psychotherapy would include such things as advising changes in habits and environment for couples who are highly embarrassed about sexual matters or advising vacations for compulsive workers. I think that the percentage of individuals who have infertility on this basis is really quite low. Those people who have deeper personality disturbances take more time and deeper more probing psychotherapy. I don't think that anyone can give a figure on any group of people treated this way, but nevertheless, I would say that perhaps in the area of 25% to 40% of these people can be helped if they can gain understanding as to their hostile attitude toward sex.

In conclusion, a broad integrated approach to problems of infertility is the only one. Along with anatomical and physiological investigations of infertile couples, an understanding of their deeper emotional attitudes toward sex, procreation, and children, are imperative. The influence of deeper unconscious conflicts through the nervous system can affect the endocrine glands and sexual organs. The teamwork of all physicians working with infertility problems is imperative.

THE VALUE OF A VIRUS LABORATORY IN A COMMUNITY*

GEORGE J. BOINES, M.D.**

A virus laboratory is a vital link in the present day diagnostic armamentarium of a hospital and of a community.

There are many bacterial infections in patients which give clinical symptoms and signs similar to those which are produced by a virus infection. Having a virus laboratory, we can get specimens for immediate processing and thus be able to make a definitive diagnosis in a matter of a few days. This laboratory also will isolate and identify new viruses and establish the relationship of these to human pathogenicity. The early recognition of a virus disease outbreak or epidemic in a community is another invaluable function of a local laboratory.

Up to the present time, specimens for virus studies, mainly stool specimens and blood for complement fixation tests, were sent out-of-state. Material had to be packed carefully in dry ice and marked "special delivery". To do this with the aid of regular laboratory help required several hours, and, under some circumstances, several days. Occasionally tubes containing blood were broken in transit, thus necessitating getting new specimens from patients at a much later date from the onset of illness. Another factor in the loss of valuable time has been the tendency to accumulate many specimens before processing. As a result, our reports were received many weeks later, reducing their value to that of a statistical nature and rendering them useless as far as aid to the patient was concerned. It is, therefore, apparent that an out-of-state virus laboratory, in spite of its excellence, cannot serve a community with the same efficiency as a local one.

Through a local laboratory many puzzling virus problems can be studied. One of these is the relation of a virus isolated from healthy persons or from carriers. It can be shown whether such a carrier has any immunity to his virus. A person does not produce antibodies in his system unless he has an active infection; thus, it can be determined whether the patient is a carrier, whether he has an active infection, or whether he had an infection in the past. It is not known, as far as I can determine, just what happens in the body—low resistance, another infection, or allergic manifestation—which causes a dormant "carried" virus to become activated and make the patient sick.

The susceptibility of a community can be evaluated by learning the degree of immunity in the population to a certain disease. Spot-checking for polio antibodies has been done in various parts of the world (Egypt, India, China, and Mexico) to determine whether the young or the adult populations carried sufficient antibodies from previous infections. In Mexico, it was found that the adult population is practically immune, whereas children were not. As a result, 90% of the patients with acute polio were children under six years of age, and it was a rare occurrence for an adult to contract the disease. Adults who contracted severe polio in Mexico were non-natives. Complement fixation, hemagglutination inhibition, and neutralization tests were used for antibody studies. Specific immunization programs with inactivated vaccines, such as the Salk polio or polyvalent flu vaccine, are then possible and desirable in the susceptible population.

With a virus laboratory in the community, little time is lost in identifying new

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viruses or mutants of old ones as they make their appearance. The Asian influenza of 1957 and the newly discovered (1958) hemadsorption (HA) viruses which cause upper respiratory disease in infants and children are excellent examples.

The virus disease entities which are recognized by characteristic clinical symptoms and signs, and for which practical inexpensive viral tests are available are those which involve the central nervous system, the upper respiratory system, the lungs and pleurae, and the gastrointestinal tract. Poliomyelitis, Cocksackie, some ECHO strains and New Castle disease involve the central nervous system. New Castle disease afflicts chickens and may infect human contacts. The Adeno, various flu strains, herpangina and pleurodinia Cocksackie strains, and other upper respiratory viruses infect various parts of the respiratory system, and the ECHO (Enteric-Cytopathogenic Human Orphan) strains involve the gastrointestinal system. These viruses produce fever, nausea, vomiting, intestinal cramps and diarrhea, and, in some patients, mild central nervous symptoms of aseptic meningitis.

These diseases may be diagnosed by the virologist by collecting specimens of blood, stool, spinal fluid, sputa or throat washings, pleural fluid, vesicle fluid, and others. These are prepared and then inoculated in various cell lines or primary tissue cultures, suckling and young mice, embryonated eggs and other hosts. Pathological tissues, e.g., lung, can also be sent to the virus laboratory for processing if viral etiology is suspected.

Bacteriological studies are faster and easier aids in making a diagnosis, but after bacteriological infections have been ruled out, many patients, especially those with "fever of unknown etiology" can be investigated for viral infections.

Besides the actual growth of a virus in the various tissues and animal inoculations, the virologist has access to additional confirmatory diagnostic methods by studying the antibody titres in the patient's blood. To do this, at least two blood specimens are needed: one obtained as soon as the patient is seen (known as the "acute speci-

men"), and one 10 to 14 days later and, if possible, a third one (known as the "convalescent specimens") and are processed simultaneously. When the titer of the antibodies involved is much greater—four fold or more—in the convalescent specimens, the finding is of diagnostic significance for the disease which stimulated the body to produce them. The microbiologist routinely uses complement fixation tests for antibody titers in such infections as rickettsial diseases and heterophile antibody in infectious mononucleosis.

A detailed history and a complete physical examination are of primary importance in arriving at a clinical diagnosis. If we find that the history, physical, and bacteriological studies are inconclusive, and a presumptive viral diagnosis is made, we must then take the specimens for viral studies. It is well to collect the sputum, stool, spinal fluid, and blood early, because it is during the first few days of such infections that the highest incidence of positive results are obtained. Throat swabs, stools and spinal fluid are processed at once, and blood serum is saved in the refrigerator until later when the second or third blood specimens are obtained for titer studies.

In the presence of an epidemic or an outbreak of a new disease, specimens are secured from six to ten patients whose history and symptoms are characteristic for the existing malady.

Since tissue cultures were adapted for virus growth, virus studies have been made much simpler and less expensive than formerly when monkeys were required for inoculation. Various tissues respond differently to the various viruses; therefore, it is imperative that the virologist be given a complete history of the illness in order to be able to choose the proper host for isolation.

After the virus is grown, in addition to the characteristic cytopathogenic changes which may be produced, the virologist uses specific antisera to do neutralization studies with the isolated virus. It takes three to four days to grow a virus, and sometimes longer where the material must be reinocu-

lated in cases of toxicity. Many of the tissue cultures, antigens, and antisera may be bought commercially, although some may be prepared by the laboratory.

Tissue cultures that are available at this time are: (1) *Monkey kidney tissue cell*—The kidneys of monkeys are prepared, and placed in tubes with a nutrient material which keeps the cells alive. The monkey kidney is one of the first, and most frequently used. (2) *The HeLa cell*—This is a strain of malignant epithelial cells, first developed from human cancer cells removed from the cervix of a patient who had this particular cancer. These are easy to prepare and easy to propagate for culture. (3) *The human embryonated fibroblast*—Embryonic tissue is taken from human fetus. This embryonic tissue is used to prepare cells for certain viruses that will not grow in other tissues. (4) *Amnion cell*—The amnion is stripped from the placenta, and is prepared in the laboratory. This is an inexpensive source of cells for cultures. (5) *Chick embryo*—A very susceptible host for mumps and influenza viruses. There are commercial sources for fertilized eggs which are delivered to the laboratory as often as needed. The virus products hemagglutination when exposed to chicken red blood cells, but by mixing the virus with antisera and then exposing them to red cells, no agglutination (HAI) Hemagglutination Inhibition Test occurs.

There are no specific drugs for viruses. However, when a virus is isolated and the etiologic diagnosis can be made early in the course of the disease, the patient and his family have the mental comfort of knowing what is wrong, the proper management can be made possible, unnecessary antibiotic therapy will be avoided, and in cases of a contagious disease caused by the virus, preventive precautions can be taken early for the contacts. Where a preventive vaccine is available, large scale immunization programs can be instituted as soon as a viral disease makes its appearance and the specific virus is isolated.

From the cultural and scientific points of view, we as physicians are duty-bound to

make an etiologic diagnosis, regardless of the curability of the disease.

Virology is more or less a new diagnostic modality. New methods of detection are being developed. The fluorescent method of detecting antibodies is in the process of being perfected and will simplify many diagnostic procedures.

With an established virus laboratory in the community all of these new methods of testing can be used as soon as they are developed. Therefore, the Virus Laboratory of Delaware, which is being established in Wilmington, will serve a great need of the medical profession of Delaware which has thus far been greatly handicapped in its inability to have virus tests done for earlier diagnosis.

SUMMARY

A virus laboratory makes it possible to identify viral infectious processes in the community and in the patient. It identifies and isolates new viruses and establishes their relationship to human disease, since it is known that some viruses are pathogenic while others are not. Viruses from healthy persons may be isolated and it can be shown whether immunity is produced in the so-called "carrier".

By anticipating susceptibility, the virus laboratory serves a specific need in the community for immunization programs in any epidemic and can even determine the optimum age for immunization.

Virus diseases which can be recognized rapidly are those of the central nervous system, the gastrointestinal system, upper respiratory and pulmonary systems (e.g. viral pneumonitis and influenza), and erythema—producing viruses.

Selection of tissue culture for propagation depends on susceptibility of various cell lines to different viruses, availability of the tissue and cell lines, adaptability of viruses to the vitro methods, and finally, the cytopathogenic effects produced in tissue culture when inoculated. Cultures usually employed are monkey cells, HeLa cells, human embryonated fibroblasts, am-

nion cells derived from human placentae, chick embryo, and mice of various ages.

Other viral tests done in completing a diagnosis are hemagglutination inhibition, hemagglutination, serum neutralizing titers and complement fixation tests.

Specimens usually collected are spinal fluid, throat swabs and washings, nasal swabs and washings, urine, rectal swabs or stools, pleural fluid and vesicle fluid.

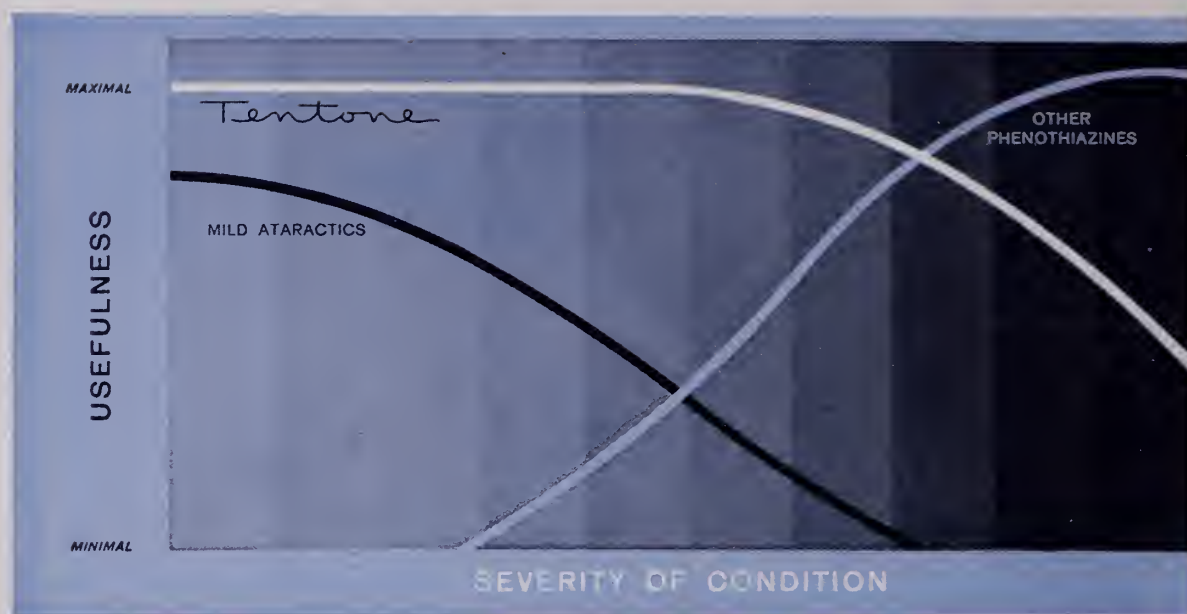
In epidemics, specimens should be collected from six to eight patients who present signs and symptoms characteristic of the prevailing malady. The clinician must be alert in recognizing new outbreaks of disease.

A virus laboratory in the community is essential for the rapid processing of specimens, and through the laboratory, clinicians become well-informed and interested in viral and other new disease entities.

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Indications include ■ common anxiety-tension states ■ obsessive-compulsive behavior ■ neurosis ■ depression ■ situational anxiety and hysteria

And the emotional components of: ■ agitation ■ restlessness ■ tremors ■ insomnia ■ alcohol- and drug-withdrawal syndrome ■ hyperkinesia ■ prenatal anxiety ■ rheumatic disorders ■ dermatoses ■ menopausal syndrome ■ premenstrual tension ■ peptic ulcer, other g.i. disorders ■ asthma, other allergy ■ multiple sclerosis, arteriosclerosis ■ malignancy, other progressive diseases

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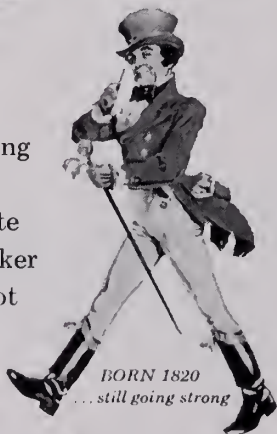


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TREATMENT OF DYSMENORRHEA IN MID-CYCLE WITH DIMETHYLANE-RESERPINE

A. LEE LICHTMAN, M.D.* and GEORGE J. BOINES, M.D.**

Definition:

Dysmenorrhea is defined as a disease of theories with multiple manifestations and explanations of the causative mechanism.⁽¹⁾ Another authority⁽²⁾ suggests that dysmenorrhea is not a disease, but a syndrome in which lower abdominal pain is the most pronounced symptom.

Etiology:

Dysmenorrhea is of obscure etiology. Many explanations have been advanced but no one has yet given an explanation to merit total acceptance. It might be pertinent to review some of the factors frequently described.

Hoffman⁽²⁾ states that to suppose that any condition which produces uterine ischemia, either by increasing the intensity of the myometrial contractions, or by reducing the blood flow through the uterine blood vessels, is a potential cause of dysmenorrhea. In some cases excessive contractions, in others, some vascular condition which reduces the blood flow may be chiefly at fault. At times, both factors may contribute.

Primary dysmenorrhea, according to Williams,⁽³⁾ may be considered the result of the effect of toxin upon excessively sensitive myometrium and pelvic arteries; the relief from the induction of anovulatory flow may be attributed to a decrease in the formation and hence absorption of toxin.

It has been suggested by Greenblatt⁽⁴⁾ that dysmenorrhea is the result of an im-

balance which occurs between estrogen and progesterone. However, this has not been fully established as a clinical fact. He also states that since many dysmenorrhea patients have a basic psychosomatic insufficiency, therapeutic responses in this group may be due to the psychotherapeutic effect of treatment.

In the opinion of Bickers,⁽⁵⁾ there is no scientific evidence to show that primary dysmenorrhea is the result of any hormonal deficiency.

The psychosomatic aspects of dysmenorrhea have received support from many sources. Hamblen,⁽⁶⁾ for example stated that dysmenorrhea not infrequently represents a release mechanism from a psychosomatic rebellion against environmental, social, domestic or connubial crisis. Functional dysmenorrhea, according to Wilson and Kurzrok,⁽⁷⁾ appears to be a psychogenic disorder in which a reduced pain threshold or a disturbed pelvic autonomic nervous system permits uterine contractions during the phase of maximum amplitude to reach consciousness.

Parsons⁽¹⁾ believes dysmenorrhea is a problem occurring as a result of the high pressure age in which we live. He states that it is true that the tension of modern life, if it does not actually contribute to the increased incidence of dysmenorrhea, it does nothing to alleviate it.

We suggest that in addition to the tensions and pressures, the physiological phenomenon of menstruation is a contributing factor to the reactions producing dysmenorrhea. The unnecessary restrictions placed

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on the activities of a woman during her menstrual period may convey the conclusion that menstruation is a disease rather than a normal physiologic process. The repeated psychic trauma produced by the regularly occurring period eventually results in an anxiety neurosis in many instances. Thus, the emotional concomitants of menstruation can be of major importance and may constitute the "evils of dysmenorrhea."

It is probable that the phenomena that cause the pain of dysmenorrhea occur during the mid-cycle. The prolonged contraction of the arterioles during the middle of the menstrual cycle produces "the dilatation of exhaustions" that cause the pain. This can occur before or during the menstrual period. If such is the case, the time to treat dysmenorrhea is in the mid-cycle. The emotional tensions that contribute to the discomfort also are at the height at mid-cycle. It is the sudden release from such tensions that produces the pain; a delayed reaction so to speak, much as in migraine.

Symptomatology:

The symptoms of dysmenorrhea vary from patient to patient. In a typical case, according to Curtis,⁽⁸⁾ the spasmodic cramps resemble, in miniature, the pains of labor. The symptoms may range from a mild mental and physical discomfort to severe attacks of pain involving the patient's back, legs and lower abdomen, which invariably leave her in a state of great fatigue during the early part of the intermenstrual period. Headache, nausea and vomiting are frequent complications and should be attended to with diligence.

Menstrual pain usually begins 12 to 24 hours before the period; however, in some patients the symptoms may arise several days before, and in others not until the flow has actually started. Initially, the flow tends to be very scanty in a majority of the patients.

Treatment:

There are almost as many forms of treatment as there are theories advanced as to

the cause of dysmenorrhea. Since no definite etiologic factor has been identified, treatment obviously has to be based on empiricism.

The role of anxiety and tension states associated with the menstrual period is of paramount importance. Also, the role of the capillary system in the physiologic economy of the organism warrants much more attention than it has received.

The use of 2,2 diisopropyl-4-hydroxymethyl-1,3-dioxolane (Dimethylane) in the treatment of anxiety tension states associated with primary dysmenorrhea was reported by Boines and Horoschak⁽⁹⁾ and Vivino and Ritter⁽¹⁰⁾. In the Boines and Horoschak study the treatment with Dimethylane was started at least 24 hours before anticipated onset of pains and continued through the period. In the Vivino and Ritter study treatment with Dimethylane was started three days prior to onset of menstruation and continued throughout menstruation.

The first investigation of Reserpine in gynecologic conditions was described by Greenblatt⁽¹¹⁾. He found that the drug had a quieting and mildly sedative effect in most instances of premenstrual tension in which it had been tried, and in eleven women who had severe menstrual pain, the drug apparently diminished it in four.

It was postulated that a combination of Dimethylane and Reserpine might have a more profound therapeutic effect than that reported for either one alone.

The basic function of the circulatory system, the establishment of tissue homeostasis, resides primarily in processes unique to the capillary bed proper.⁽¹²⁾ It was stated by Martin⁽¹³⁾ that there is no diseased state in which the capillaries are not detrimentally modified and conversely that there are no diseased states which will not benefit by assuring proper capillary strength and integrity.

Substantial clinical evidence exists in medical literature to support the conclu-

sion that a combination of hesperidin—a flavonone glycoside—and ascorbic acid in capsule form* has the unique property of correcting capillary defects and maintaining normal capillary integrity.⁽¹⁴⁾

Since the integrity of the capillary system is compromised in dysmenorrhea, it was decided to incorporate the combination of hesperidin—ascorbic acid into our treatment of this condition.

Materials and Procedure:

A study was designed to evaluate the effect of hesperidin-ascorbic acid and dimethylane-reserpin in 120 patients with primary dysmenorrhea. The patients selected for study were student nurses, graduate nurses, office personnel, and college students. A majority of the patients were student nurses and graduate nurses. Ages ranged from 17-26 years.

A complete history, including dietary and psychic, complete physical examination, including a thorough pelvic exploration, was made and necessary laboratory studies were performed.

Easy bruisability, which was more pronounced at the onset of the menstrual flow, was observed in 22 of the patients.

A review of the histories revealed that twenty percent of the patients had to resort to codeine or a narcotic derivative to obtain satisfactory relief from pain. Most of the patients had to lose one to two days of duty, work or study because of the discomfort during their periods.

The therapeutic program set up consisted of the following:

1. Activity was encouraged in place of bed rest during the period.
2. Attention to diet and bowel function at all times was stressed.
3. All previous medication was discontinued.
4. Hesperidin-ascorbic acid (100 mgs of each per capsule)—one capsule three times daily was prescribed for as long

as necessary to correct capillary defects and to maintain an intact capillary system.

5. Dimethylane (250 mgs)—Reserpine (0.25 mg.) per enteric coated capsule*—one capsule was given three times daily in mid-cycle—if cycle was 28 days, the patient took the medication from the 11th to the 16th day.
6. In severe cases, the Dimethylane-Reserpine medication was continued up to the onset of the menstrual flow.
7. Most of the patients were treated through at least 6 complete cycles.

Results:

1. Susceptibility to easy bruisability was considerably reduced in 18 of the 22 patients in whom this phenomenon was present.
2. The patients who had found it necessary to take codeine or some narcotic derivative found they could do without this "crutch".
3. Eighty percent, (96) of the patients were able to carry on their normal activities throughout their menstrual period.
4. A strong psychic overlay was present in three patients and they were referred to psychiatry.
5. Marriage was recommended for four patients; all of them acted on this therapeutic suggestion and they were benefited.
6. There was improvement in 10 patients but not of the degree to permit full activity through their period. However, their inactive time was reduced to at least fifty percent.
7. Seven patients were not satisfied with their progress and discontinued our program.
8. There were no complaints of side effects from any of the patients during the period of our study.

*Avaclam—The National Drug Co., Philadelphia, Pa.

Conclusions:

Primary dysmenorrhea can be satisfactorily controlled in a majority of patients with Dimethylane-Reserpine (Avacalm) if treatment is given in the mid-cycle for 5 days. The Hesperidin-ascorbic acid combination (Hesper-C) probably contributes to the effectiveness of Dimethylane-Reserpine treatment, by maintaining an intact capillary system.

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ARGENTAFFIN TUMOR OF THE JEJUNUM WITH CASE REPORT

JOSEPH F. HUGHES, M. D.

INCIDENCE

Argentaffin tumor or carcinoid tumor of the jejunum is an uncommon disease. In a series of 51 carcinoid tumors reported by Diffenbaugh⁽¹⁾ 74.5 per cent were appendiceal in location. Carcinoids of the small bowel usually occur in the ileum in contrast to carcinomas which are more apt to develop in the jejunum. Argentaffinomas made up 0.23 per cent of the 6,092 autopsies reported in a series from the files of San Francisco Hospital and Franklin Hospital in San Francisco over a 23 year period from 1932 to 1954. During this time, 29 argentaffin carcinomas were reported. Of the 29 cases 17 were treated surgically and the other 12 cases were found at autopsy. Pearson and Fitzgerald⁽²⁾ reported an incidence of occurrence at the Boston City Hospital of 28 in 47,479 surgical specimens and 38 extra-appendiceal carcinoids in 11,621 autopsies. Ninety-seven per cent of the carcinoids occurred in the appendiceal area. These tumors may occur at any age. The youngest reported case in the literature was that of an infant of 10 days with a small bowel carcinoid.

Ariel⁽³⁾ reported 11 cases of small bowel argentaffinoma in 1939, five of which were malignant. He reviewed 237 cases from the literature, 25 per cent of which had metastasized. He pointed out that the prognosis is generally good but that the tumors can cause death. Of the extra-appendiceal lesions in Grimes and Bell's⁽⁴⁾ series of gastrointestinal tract carcinoids, 100 per cent were malignant; all eight were in the small bowel. Foreman⁽⁵⁾ reported 38 carcinoids, 14 of which were in the small intestine. Four of the 14 were malignant. Grimes and Bell⁽⁴⁾ cite Dockerty's series of 30 cases

occurring in the small bowel, 13 of which were malignant. In a series reported by Eldred⁽⁶⁾, which includes 15 small bowel argentaffin carcinomas, five were malignant. Spread to regional nodes is frequent and spread to more remote locations occurs occasionally (liver, lungs, kidneys, adrenals, retroperitoneum, bone, subcutaneous tissue, brain and pancreas). The percentage of malignancy of small bowel argentaffinomas varies considerably, depending on the particular report.

PATHOGENESIS

Grossly, carcinoid tumors are light yellow in color, probably owing to their high lipid content. They are usually located in the antimesenteric portion of the bowel and submucosal. The typical cell found is a small epithelial cell with an oval or round nucleus that has a well-defined nuclear membrane and a fine strippling of chromatin. The cytoplasm is palely acidophilic, small in amount, vacuolated or granular. The cells are in columns, nests, coils or masses.

Willis⁽⁷⁾ advocates the term argentaffin carcinoma and suggests the name Kultschitzky cell carcinoma, for there is good evidence that the tumor arises from the specialized granular epithelial cells of the crypts of Lieberkuhn, the yellow cells of Kultschitzky. Mason⁽⁸⁾ showed that these cells have a collective ability to reduce ammoniacal silver nitrate, the argentaffin reaction. The cut surface of the tumor and its metastasis show the characteristic yellow-orange color cells from which they arise. Kultschitzky cells are most numerous in the duodenum, yet peculiarly enough, carcinoid tumors of the duodenum are rare.

In the small bowel they occur more frequently. According to Dockerty and co-workers, carcinoid tumors comprise 23 per cent of all small bowel tumors. In one-third of the small bowel cases they are multiple. In one small bowel specimen, as many as 63 discreet tumors have been reported.

Ransome⁽⁹⁾ in 1890 was the first to report metastasis from a carcinoid, which in this case, was of the ileum. Many additional reports of metastasis from these tumors have appeared in the literature. Ritchie and Stafford⁽¹⁰⁾ in a review of 332 carcinoid tumors in 1944 found a 37.9 per cent incidence of metastasis. Metastasis by lymphatic spread is commonest but there may be vascular invasion with widespread metastases. Portal spread to the liver is not uncommon. Metastasis has been reported as occurring to the regional nodes, bones, lungs, liver, spleen, kidney, brain, subcutaneous tissue, adrenals and testes. There is good evidence that if this type of tumor were ever located, it would be malignant. The incidence of metastasis of these tumors in various areas of the gastrointestinal tract usually parallels the duration in time at which the tumor is present.

In a middle-aged patient, intermittent small bowel obstruction or x-ray demonstrable filling defect, or kinking of the terminal ileum, should alert one to diagnose argentaffin carcinoma.

The argentaffin carcinoma syndrome has been reported by Thorson and co-workers⁽¹¹⁾. This syndrome is sometimes found in patients with liver metastasis from carcinoid tumors of the small bowel and consists of peripheral vasomotor symptoms, cyanosis, pulmonic stenosis, and tricuspid regurgitation without septal defects. They first reported 7 certain, 4 probably and 5 qualified cases from their own experience and from the Continental literature. They suggested that the vascular lesions were acquired, being secondary to the prolonged action of serotonin secreted by the tumor tissue.

That argentaffin carcinoma tumors may be functioning neurocrine tumors related

to pheochromocytomas has been suggested occasionally in the literature. The isolation of 5-hydroxytryptamine or 5-hydroxyindol-acetic acid from a carcinoid tumor by Lembeck lends credence to this possibility.

TREATMENT

The treatment of argentaffin carcinoma is surgical. Even in the presence of distant metastasis, radical excisional surgery is indicated because of the favorable prognosis in the disease. When the primary growth is removed, frequently the metastatic deposits are stabilized. This tumor is not sensitive to radiation.

CASE REPORT

A white man, age 53, was admitted to the St. Francis Hospital on June 5, 1958. His chief complaint was pain in the left lower quadrant of the abdomen and across both hips.

He stated that during the past month he had had an acute bout of abdominal pain in the entire abdomen. The abdomen felt sore and he had diarrhea alternating with constipation. He had a deep ache in the bones of the hips which was treated by his physician with antacids. The condition improved, the burning sensation subsided and he was given a diet. At times the ache in his leg bones and thighs came back and it was not relieved by medication. Two weeks prior to admission the patient felt tired, his appetite became poor, and he felt that he had lost weight. He had been constipated and stools were hard and small in amount. Pain in the left lower quadrant was persistent and he felt a lump in this area.

The patient had been treated for indigestion many times since early childhood. He had pneumonia at the age of four. He has been constipated for a long time and had an aching across the lower back.

His father died at the age of 56 of a cardio-vascular accident and his mother died of tuberculosis. One brother was living in fair health.

On physical examination the patient appeared to be chronically ill. His skin was pale and he was emaciated. He had reduced turgor of the skin. Remaining teeth were in poor condition. Thorax was negative. The abdomen was soft and a firm mass was felt to the left of the umbilicus extending downward into the abdomen. He was tender in the left lower quadrant. The rest of the examination was essentially negative.

My impression was that he had an abdominal mass in the region of the left transverse colon. This mass was hard and immobile, as thought it were fixed to the deep tissues.

The blood count showed 4,420,000 erythrocytes per cubic millimeter, 7,650 leukocytes and a hemoglobin of 88 per cent or 13.5 grams. The differential count was within normal limits. Urinalysis was negative. A serum amylase was 39 Somogyi units. He had a negative Mazzini. An electrocardiogram was normal except for occasional auricular premature beats.

A barium enema showed no filling defect of the colon. It was the impression of the examiner that the large mass was extrinsic to the colon. An I.V. pyelogram was negative. Chest x-ray was negative. An upper G. I. series was done showing the esophagus, stomach and duodenum to be within normal limits. Within a short time the barium was spread throughout the small intestine and the head of the barium meal was in the hepatic flexure. No definite abnormality in the small bowel pattern was noted.

An exploratory laparotomy was performed four days after admission. On opening the peritoneal cavity a 10 cm. segment of the jejunum was found filled with tumor and this was adherent to the mesentery of the transverse colon. Wide excision was made through the jejunum, to include the tumor mass, and the mesentery was resected. However, the tumor mass extended down and was attached to the pancreas and in order to remove the tumor it was necessary to cut through the base of the

mesentery. There was too much extension to attempt to remove all of the tumor tissue. A side to side anastomosis was made between the proximal and distal portions of the jejunum. A temporary gastrostomy was performed and a Levin tube was inserted to the site of the anastomosis for continual postoperative suction. A Penrose drain was inserted in the left iliac gutter.

The pathology report is as follows: Gross examination reveals an excised segment of jejunum measuring a total of approximately 30 cm. in length. The segment is grossly distorted by having an adherent loop and within the wall of the bowel is a firm thick-white tumor which extends for approximately 6 cm. along the bowel and encircles it, measuring at its thinnest point some 3 mm. in diameter, and at its thickest point (the mesenteric border) some 1.5 cm. in thickness. This tumor tissue actually extends into the mesentery, and located adjacent to it are several whitish nodules which appear to be lymph nodes, and which in some areas, blend imperceptively with the main tumor mass. The appendix, 5 cm. long, appears normal. Microscopic examination reveals the tumor tissue made of irregular clump cells having rounded, deeply stained, nucleoli and somewhat indistinct cytoplasmic borders. Some of the cells show small vacuoles and the clumps of tumor cells are lying throughout all coats of the bowel, in a delicate connective tissue stroma. The regional lymph nodes show infiltration by a similar type tumor. The features are highly suggestive of a malignant carcinoid. Diagnosis: Malignant carcinoid tumor of jejunum.

The patient's convalescence was uneventful. After about ten days, postoperatively, the Levin tube was removed and the gastrostomy opening started to close spontaneously. He was put on a full diet and was discharged in good condition 18 days after his admission, or two weeks after surgery. At home he did fairly well for about six weeks and then started complaining of more pain in the abdomen, peripheral edema and anorexia.

He was re-admitted to the Hospital on September 6, 1958, about three months after the original admission. The blood count showed 3,920,000 red cells, 15,850 white cells with 74 per cent or 11.5 grams of hemoglobin. A differential count showed 84 per cent segmented polymorphonuclears and 16 per cent lymphocytes. Urinalysis showed a specific gravity of 1.023, acid reaction, faint trace of albumin, trace of sugar, and a small amount of amorphous material. A fasting blood sugar was 80 mgm. per cent and blood urea nitrogen 24.5 mgm. per cent. He was confused and talkative in a rambling manner. He had edema of the face and peripheral edema. A urine specimen was examined for 5-hydroxyindol-acetic acid on July 29, 1958 but this was negative. His condition quickly deteriorated and on September 9, 1958 he expired. No autopsy permission was obtained.

CONCLUSION

A review of the recent literature on argentaffin carcinoma was presented along with a recent case. It is now the general impression that argentaffin carcinoma is definitely a malignant tumor and the fact that metastases are not present does not contradict this assertion. If the condition is present long enough, it is thought that me-

tastases will occur. Therefore, the only hope for the proper treatment of this condition is to get an early diagnosis. The presence of large amount of 5-hydroxyindol-acetic acid in the urine should be investigated and this, as a rule, is only elevated when there is widespread metastasis to the liver. In this particular case the report was negative for this serotonin by-product.

X-ray studies of the G.I. tract are not always helpful. This state was confirmed in this patient. He may have had this tumor for a long time before being examined by a physician.

This was undoubtedly a hopeless case and was apparently a patient in which the tumor spread rapidly, and with great rate after surgery, even though the immediate postoperative course appeared good. This review of the problem is presented in order to make physicians aware of this malignant tumor. Only with early surgery can we give the patient prospects of a cure. This disease does have a good prognosis if the surgery is performed in the early stage.

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- 7 - 11. Quoted in Diffenbaugh and Anderson¹ and Eldred⁶.

CASE PRESENTED BY DR. ALLEN C. WOODEN

CLINICOPATHOLOGICAL CONFERENCE

ST. FRANCIS HOSPITAL

January 27, 1959

PHYSICAL EXAMINATION

A 21-year-old white man was admitted to the hospital on September 6, 1957. His history was that he had a severe attack of scarlet fever in 1938. His immediate course following this illness was apparently satisfactory but several months later he developed bloody urine. Soon, fatigue, headache, and inability to concentrate ensued. In 1950 he showed a severe degree of anemia. He had severe upper respiratory infections. His laboratory and x-ray findings at that time were normal, x-rays of the skull were taken for the possibility of a brain tumor. Urinalysis in 1950 showed from one to four plus albumin and anywhere from occasional red cells to gross blood. From 1950 until 1956 his blood sedimentation rates averaged from 25 to 55 mm. per hour. During the same period his hemoglobin ranged from 9 to 12.5 gm. and the blood urea nitrogen from 16 mg. to 25 mg. In 1957 he was six feet two inches tall and weighed 180 pounds. He complained of frequent headaches and periods of weakness; he had little or no libido and apparently desired to remain by himself. Accompanying the severe headaches was nausea and protracted vomiting which was relieved only by intravenous feedings and Demerol. His physical condition deteriorated and he was admitted to the hospital in coma following severe epileptiform convulsions. His tongue was bitten and his cheeks were lacerated, his tongue was so swollen that he could not open his mouth.

Eyes: Pupils were round and equal, but did not react to light and accommodation.
Sclera: were normal.

Fundus oculi: Papilla: Slight bilateral cup. Retina red and slightly edematous. No hemorrhagic points seen. Macula normal. Vessels constricted. A few large white spots seen.

E.N.T.: Normal

Mouth: Tongue lacerated and bleeding

Heart: No murmurs BP 240/140

Abdomen: Soft, no masses. *Extremities:* No reflexes.

X-RAY EXAMINATIONS Skull normal. Heart and lungs normal.

LABORATORY STUDIES (On admission)

RBC 2,720,000 WBC 18,750, Hgb. 8.5 gm., Differential count: Segs. 85% Lymphs 10%, stabs 4%, Juv. 1%.

Total Protein 6.7 gm. *Albumin* 5.1 gm. *Globulin* 1.6 gm. *A/G Ratio* 3.1:1 *B.U.N.* 126 mgm. *Chlorides* 600 *Potassium* 4.4 mEq.

Urine Analysis: Sp.Gr. 1.008, albumin 4 plus, sugar—trace, few WBC, 10-20 RBC few epithelial cells, few casts.

TREATMENT AND PROGRESS

9/6 (Admission) Thorazine 50 mg. q. 4 hs. I.M., 5% glucose in D/W 1000 c.c. I.V. with vitamins

9/8 1000 c.c. 5% glucose in D/W with vitamins I.V.
1000 c.c. 5% glucose in N/S I.V.—Amigen 1000 c.c. I.V.

9/9 Progress note: condition the same
CBC: RBC 1,840,000, WBC 7,850, Hgb. 5.7 gm. Segs. 81%, lymphs 19%, Hematocrit 18%
Treatment: Fluids as on 9/8 plus Ansolsen 10 mgm. t.i.d.

9/10 Progress note: Complaining of mild chest pain off and on. BP 150/90

Treatment: 1000 c.c. 5% glucose in N/S with vitamins I.V. 1000 c.c. 5% glucose in D/W with 1 m. lactate 40 c.c. added I.V.

9/11 Progress note: BP 140/70 Patient seems to be improving.

Treatment: 500 c.c. whole blood, 1000 c.c. 1/6 M. lactate I.V. 1000 c.c. 5% glucose in D/W with vitamins I.V.

9/12 Progress note: No complaints—heart and lungs—B.U.N. 106 mg.

Treatment: I.V. fluids as on 9/11 plus Ansolsen 15 mgm. t.i.d.

9/13 BP 170/120—Slight improvement

1000 c.c. 1/6 M. Lactate with 3-3/4 grs. Aminophylline I.V. Ansolsen 25 mgm. t.i.d.

9/14 Thorazine discontinued

9/16 Treatment: High fat, high CHO, low protein diet, Raudixin 50 mgm. q.i.d., Phenobarbital 1/4 gr. q.i.d.
B.U.N. 138 mg RBC 2,600,000, WBC 5,900, Hgb. 8.5 gm.

9/18 BP 170/120 L.P. done: CSF clear, pressure 20.0 m.m. initially, 13.0 toward end

9/19 BP 170/110—Patient complains of some chest pain and gas. Condition unchanged.

9/20 B.U.N. 113 mg.

9/22 Patient complains of severe headache. Lungs clear—BP 150/100 B.U.N. 128 mg. Creatinine 8 mg.

9/23 BP 160/100 Condition slightly improved, no complaints—Discharged.

On October 6, 1957, the patient was re-admitted. From the time of his discharge until re-admission and on admission, he complained of cough, headache, dyspnea, cramps in the calves and swelling of the feet.

PHYSICAL EXAMINATION:

Skin: Pale. *Head:* Normal. *Eyes:* Pupils react to light and accommodation. BP 160/108

Neck: No distention of the veins. Lymph nodes: not enlarged

Lungs: Clear to percussion and auscultation. *Heart:* No murmurs, heart beat 92/min. *Abdomen:* Negative. *Feet:* 2 plus pitting edema

LABORATORY STUDIES:

CBC: RBC 1,850,000; WBC 8,500, Hgb. 5 gm. RBC show hypochromatosis Hct. 14% B.U.N. 92 mg. Mazzini: Negative
Urine Analysis: Sp.Gr. 1.000, albumin 4 plus, negative for sugar, some WBC, many RBC Epithelial cells: 1-3 renal, occasional squamous. Casts: rare coarsely granular

TREATMENT AND PROGRESS

10/10 Appetite poor

10/12 B.U.N. 125 mg.

10/14 BP 140/100 General condition improved

10/16 Total protein 5.2 gm. Albumin 3.9 gm—Globulin 1.3 gm. A/G ratio 3.0:1

10/17 B.U.N. 112 mg.

10/22 BP 140/70 nausea—Edema of both feet—condition unchanged

10/24 BP 140/90 Edema of both feet B.U.N. 65 mg.

10/28 *Bleeding time* 3½ minutes *Lee-White* 9 minutes

11/2 B.U.N. 91 mg.

11/4 BP 140/90 Edema of both feet

11/5 RBC 1,450,000; WBC 5,850; Hgb. 4.3 gm.; RBC hypochromic. Urine: 2 plus albumin, Sp.Gr. 1.008, rare WBC, many RBC

11/6 B.U.N. 127 mg.

11/8 Pulse 100/min. Complains of disiness

11/11 6:15 A.M. Had one convulsion, 3 and 3/4 gr. Na Amytal I.V. given. 8:45 A.M. Patient having convulsions—Comatose

11/12 3:45 A.M. Patient expired.

(During time of last admission, patient was treated with the following: I.V. 5% glucose, Demerol, Sodium Amytal, Ansolsen, Raudixin, salt free diet, 1,000 c.c. whole blood, Elixir Terpin Hydrate, packed RBC (2 units), Elixir of Donnatal, 1/6 M. lactate, vitamins, 6a gluconate I.V., Moderil, Citrate of Mag., Thorazine, Sygnamycin, Amigen, Penicillin.)

DISCUSSION

Dr. Reinhardt: First of all, I would like to just go through the protocol, and make some comments, if I may, on various aspects that are described here.

I would like to thank Dr. Wooden for adding the history that he did, because it certainly makes an entirely different case out of this that is described here. A history of this sort is practically impossible to arrive at any sort of a conclusion, and the history of scarlet fever with subsequent nephritis, I think, certainly tends to give us a very strong lead to what the final outcome and diagnosis is.

First of all, in going down this list, I make several notations on this description of the optic fundus. You certainly have hypertensive changes there with the evidence of constricted vessels, some retinal edema, and apparently fairly large exudate were noted. There were no hemorrhages. This is quite common actually in young people. They tend to tolerate a hypertension a lot better than those that are past thirty. This is more also of the type of fundoscopic picture that one sees with a chronic nephritis syndrome, rather than an acute malignant hypertension.

The fact that the tongue was lacerted and bleeding, I think, certainly bears out the fact that he was having grand mal seizures, and would certainly go along with a more or less terminal stage of uremia. The notes made here concerning the examination of the heart, seem somewhat inadequate. There is no mention of where this blood pressure came from, whether it was the right or left arm, or whether the legs were checked or not. This of course is important from the standpoint of coarctation. In people of this age bracket, it is important to have it because if they do have a coarctation, they may have a marked difference between the two arms in blood pressure.

In looking over the x-rays, the only thing that is notable here is that the kidneys are non-functioning. The other films of the chest and skull fail to reveal anything. Interestingly enough, there did not appear to

be very much in the way of cardiomegaly as one would expect with a hypertension that had gone on as we know for at least five years and probably nine years. This would suggest that possibly between visits to the doctor's office where the blood pressure was taken, it was quite a bit lower than was actually registered when it was taken in the doctor's office.

It was interesting to note in Doctor Wooden's history, that the B.U.N. actually ran at a pretty normal range, 16 mg to 25 mg. This is not particularly abnormal unless one has a hypoproteinemia which was not so here. I don't understand why the boy was anemic. Certainly if the blood urea was a little more elevated it would account for some sort of toxic suppression of the bone marrow on a renal insufficiency basis. It may be that this level is enough to produce that. Of course, the other factor you have to think of when you are dealing with anemia and renal disease, is the fact that there is a uropoietic factor produced by the kidney which has some sort of a stimulatory effect on the bone marrow to turn out normal red cells. Even in renal disease in which there is not nitrogen retention as evidence by a normal B.U.N., it may be that this factor may be destroyed early. In looking over the laboratory studies on the first admission. I was glad to see that the potassium had been done, because that is within the normal range. This rules out the possibility of primary aldosteronism. The normal albumen and globulin fraction in the total protein, I believe, rules against the possibility of a disseminated lupus erythematosus with primary changes produced to cause this picture.

The urinalysis showed a very low specific gravity which would be pretty well expected in terminal renal failure picture. One thing that was sort of interesting was that he had a trace of sugar. Now this can be seen in patients with terminal renal disease. It also can be seen if they are getting an I.V., and it also can be seen if they have hypertension of the malignant form secondary to Cushing's Disease. There was no description of the physical habitus of the individual in the protocol, although Dr. Wooden

was kind enough to furnish us with the picture which looks almost like a typical picture of Marfan's syndrome.

In looking over the notes on treatment, I certainly don't think there could be any criticism here. It might be well to ask Dr. Nelson to give his opinions on a couple of things in relation to the convulsions. What about the use of Thorazine when convulsions are present?

Dr. Nelson: When convulsions are due to cerebral edema or there is an underlying seizure tendency, the situation is usually made worse by the use of tranquilizers or antihistaminics. However, we are dealing with a different type of case here, and I feel that Thorazine was probably indicated.

Dr. Reinhardt: In going over the protocol further, I don't think there is too much more that can be mentioned. I don't see a report of electrolyte studies. I wonder why the patient was given one-molar lactate on September 10. The chest pain which is mentioned here most likely is due to pericarditis, although certainly, in patients with chronic nephritis, especially if they have been through a nephrotic phase with an elevated blood cholesterol, they are prone to develop myocardial infarction too. My guess is that in this instance that it was due to pericarditis, although no mention was made of the rub or the electrocardiographic changes.

One other thing that I would like to ask now that we have Dr. Nelson here is the use of sodium amytal as a treatment for convulsive disorders. Is this the drug of choice, or would phenobarbital be a more specific anti-convulsant agent?

Dr. Nelson: If this were a cerebral convulsion, you wouldn't want to use a drug that would cause further depression of the brain stem. You might use I.V. Dilatin which does not depress the brain stem even at high doses.

Dr. Reinhardt: How much can be used?

Dr. Nelson: In an I.V., 200 mgs. or if the patient can swallow, I would suggest 14 cc of Paraldehyde. If the patient is comatose, one can give 2 or 3 cc. IM. You

can use a high dose in an I.V., but it is dangerous and can cause a laryngospasm.

Dr. Anderson: What about using something milder, such as magnesium sulfate?

Dr. Reinhardt: This is certainly a time honored antihypertensive and anti-convulsant. Actually, as we are learning more about this phase of medicine, we find that magnesium is very specific muscular depressant or neuro-muscular depressant. One has to be very careful in a patient with impaired renal function not to give high doses of an electrolyte which could not be easily excreted.

Dr. Boines: What about transfusions in nephritis?

Dr. Reinhardt: This is sort of a debatable question, I believe. People have a lot of different ideas on it. Usually, the patient tolerated his anemia very well, in chronic nephritis, and very often, unless he is in intractable congestive failure, or something of that sort, it is probably wiser not to give anything along those lines unless you are thinking more of the plasma portion of the blood from the standpoint of protein, etc. Certainly it is given. I have given it many times and I am sure everybody here has.

Dr. Boines: Would you use packed cells instead of whole blood?

Dr. Reinhardt: Some people feel that this is better from the standpoint of not overloading the circulation. Personally, I feel that if you are going to give anything, if the patient can tolerate it from the standpoint of his cardiovascular system, you are better off giving something with some protein in it which, of course, is whole blood.

As far as the further treatment of the case is concerned, I don't think there is much more to be said. The patient was discharged toward the end of September with a BUN of 128 mg which is pretty close to what he came in with. There are very few patients with a creatinine of this 8 mg that ever recover. The prognosis is poor and this was the case here.

The patient now has symptoms of cough, headache, dyspnea, cramps in the calves,

and swelling of the feet. The dyspnea may be on the basis of anemia, or possibly on the basis of congestive failure. The cramps in the calf certainly suggest that he had a hyponatremia or low sodium in the blood and I think that this is further borne out by the fact that his blood pressure was 160/108 on admission. He was probably having some sort of a low sodium syndrome. There is no mention made about whether he had convulsions on readmission or what had happened in the interim between discharge and re-admission.

He had two plus pitting edema of his feet which would make one think of congestive failure. However, there was no distention of the neck veins which pretty well rules that out. Perhaps this was on the basis of a hypoprotanemia and probably a rather marked electrolyte imbalance which is quite typical of this type of patient. The heart rate was 92 per min. Did the cough mean he had an early bronchopneumonia? These patients are prone to this and often die from infection.

His blood count was further depressed. The hemoglobin was 5 grams. Again the urinalysis shows a specific gravity of 1006. Albumin is 4 plus. Sugar is now negative. There were many red blood cells and not many white cells. There were coarsely granular casts which were probably indicative of tubular casts being formed high up with red blood cells. The BUN at this time was 125 mg. and I think this is probably one instance where creatinine would have been a little more valuable than a BUN in that I suspect this patient's condition was a lot worse at this time than it was a week or two before on discharge. My guess is that his creatinine probably would have been up around 10, 11 or 12. The reason I say that is that there had been a drop of almost a whole gram in his albumin which would change the urea picture. Again, later on we see about two weeks after admission that his BUN was down to 65 mg. percent. At this time we don't know what the proteins were. It would have been most interesting to see what the creatinine levels were on these occasions.

The patient was given a salt free diet,

and frankly, I think this could be dangerous to give a patient with chronic nephritis and renal failure. The patient may develop an acute low salt syndrome because of this lack of accommodation by the damaged kidneys sudden reduction in NaCl in the diet.

I think I would like to run through briefly the possibilities that one has to entertain in a case like this. From the basis of the protocol that we had, the patient obviously had terminal renal failure with hypertension. It might have been from a malignant type hypertension, from a chronic pyelonephritis, or from a chronic glomerulonephritis. They are the most common causes. I think the most pertinent points one must remember is that the patient was 21 years of age. He had a history of scarlet fever with nephritis following. He had a subacute or chronic nephritis during the intervening nine or ten years. There was a change, we don't know what made the change, towards the end when he came in convulsing and a much higher BUN than he had previously. There are certainly a great many different possibilities. I think essential hypertension is something that possibly could be considered in the light that the patient's mother had eclampsia which indicates certainly vascular disease, although I certainly don't believe this patient had essential hypertension. Pheochromocytoma or chromaffin tumor must be considered in a young man with this sort of a picture as more than half the patients with pheochromocytoma manifest only a markedly elevated blood pressure. I think usually these patients do not die of renal failure, but more likely as cerebral vascular accidents.

Cushing's Disease is one that one must think of, but I think Dr. Wooden ruled that out pretty well by his description of the physical habits of the individual. Periarthritis is a possibility, although I would think it unlikely from the standpoint of the symptoms of the patient that he had before he came in. Lupus erythematosus is possible because of the description of the rash. I doubt that he had it. Granulomatosis is another possibility. This is a combination

of chronic pulmonary disease and renal failure. Some people think it some sort of a variant of periarteritis nodosa. Scleroderma is unlikely. Carcinoma is possible, but unlikely. Tuberculosis, hydronephrosis, congenital polycystic kidney disease, bilateral constriction of the renal arteries on a congenital basis, renal dwarfism, or hypoplastic kidney, all sorts of congenital anomalies are possible but very unlikely. Renal hematoma or renal artery thrombosis are unlikely. Pyelonephritis is not suggested from the history or laboratory findings. The most likely possibility is chronic glomerulonephritis in the terminal phase.

Dr. Boines: Were there any indications for decapsulation of the kidneys?

Dr. Reinhardt: I don't believe so.

Dr. Cannon: I don't think it is of value.

Dr. Serino: Were steroids used early in the case?

Dr. Reinhardt: When you say early, do you mean at the time of the acute nephritis, nine or ten years before? I think that steroids were used, weren't they Dr. Wooden?

Dr. Wooden: Yes they were.

Dr. Serino: Would you use steroids in lupus?

Dr. Wooden: I certainly would.

Dr. Serino: How much irritation does the kidneys get from Dilatin?

Dr. Nelson: There is a good bit, but it is tolerated well and you don't have to worry. 200 to 300 mg. won't give too much trouble.

Dr. Serino: In cirrhosis would you use Dilatin? Say in the first ten days with jaundice with or without convulsions.

Dr. Nelson: Some of it would be thrown off, but I would use paraldehyde.

Dr. Wooden: This did not impress me as a grand mal. He could remember some things that occurred.

Dr. Nelson: He could have had some of both.

Dr. Serino: Did you see this butterfly appearance was in the first acute stage or after it was established?

Dr. Wooden: It started on his nose and progressed to his cheeks. I thought at first it was lupus and it did subside under cortisone.

Dr. Reinhardt: I think in somebody like this who is having progressive renal failure, I think I would be tempted to leave well enough alone. I don't think there is any point in preserving a life just to make that life hideous for a short time, and that is all you do by dialyzing them, and the procedure itself is not simple. I have seen a couple of them done, and they are pretty rough things for the patient to go through in addition to being dangerous. The maximum benefits that you can get would be about two weeks, I would say.

Dr. J. W. Abbiss gave this autopsy report:

INTERNAL EXAMINATION

Scalp and Skull: Normal.

Brain: The brain weighs 1,500 grams and shows edema with flattening of the convolutions but is normal otherwise.

Thyroid Gland: Normal.

Larynx: Normal.

Trachea: Normal.

Pleural Cavities: These contain approximately 1,000 cc. each of a clear straw colored fluid.

Lungs: Left lung, weight 800 grams; right lung 900 grams. Both lungs show marked congestion and edema, the bronchi containing a frothy pinkly staining fluid.

Pericardium: The pericardium contains approximately 250 cc. of a clear straw colored fluid.

Heart: Weight 475 grams. The heart is enlarged, the enlargement being due to thickening of the muscle of the left ventricle. The cardiac valves appear normal. The coronary arteries are normal.

Aorta: The aorta shows some early atheromatous changes in its abdominal portion.

Peritoneum: The peritoneal cavity contains approximately 3,000 cc. of a clear straw colored fluid.

GI Tract: The esophagus, stomach and small intestine contain blackish colored coffee ground material within the esophagus and stomach, flecks of normal appearing blood clots being present. This bleeding is due to numerous small erosions present in the stomach and small bowel.

Liver: Weight 2,500 grams. The liver is congested but appears normal, otherwise.

Gall Bladder: Normal.

Pancreas: Normal.

Adrenal Glands: Normal.

Kidneys: The kidneys weigh 85 grams each and are markedly reduced in size. The capsules of both kidneys strip with great difficulty leaving a finely granular surface. On cut section, the kidneys appear pale, the cortices being markedly reduced in amount. The vessels of the kidneys stand out in a marked fashion. The gross appearances are those of a chronic glomerulonephritis.

Urterers: Normal.

Urinary Bladder: Normal.

Prostate Gland: Normal.

External Genitalia: Normal adult male.

Liver: The liver shows chronic venous congestion.

Lungs: Chronic venous congestion with edema.

Spleen: Congested.

Kidneys: The kidneys show marked fibrosis of the interstitial tissues with re-

placement fibrosis of many of the glomeruli. The surviving glomeruli show all stages of transition from early proliferative changes through gradual sclerosis to complete obliteration. In some areas, epithelial crescents are present confirming the impression of a glomerulonephritis. There is considerable infiltration of the interstitial tissues by small round cells and many tubules are dilated and contain pink staining albuminous material. The arterioles of the kidneys show marked intimal and medial thickening. The features are those of chronic glomerulonephritis.

Brain: Sections taken from various areas of the brain show edema but are normal otherwise.

CLINICAL SUMMARY

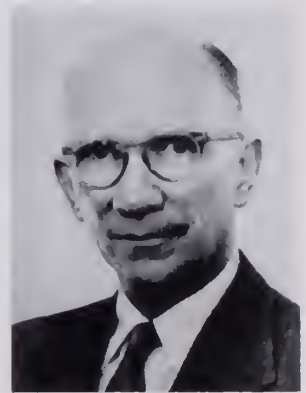
This case is that of a patient suffering from:

1. Chronic glomerular nephritis, which caused a long standing severe hypertension.
2. Uremia, due to chronic glomerulonephritis was the cause of death. Convulsions were present and were evidently due to uremia.

The history of nephritis goes back to the patient's childhood. In 1938 he had scarlet fever with a renal complication. Later albumin urea was constantly present and anemia was noticed. The kidneys remained compensated until admission to the hospital in 1957. Then the blood urea nitrogen was 125 mg. per 100 cc. of blood. As late as 1951, the blood urea was as low as 16 mg. to 25 mg. per 100 cc. of blood.

The differential diagnosis was outlined in the discussion.

PRESIDENT'S PAGE



Since January 1st your Council has had two meetings in Wilmington and a third meeting is now scheduled for Dover on June 25th. There has been a great deal of importance to each member of the Society taken up at these meetings, some of which will be discussed in this letter.

The A. M. A. has been desirous of the Society again giving its opinion on Social Security for physicians. In the April issue of the Journal there were two articles on this subject. I hope that each member of the Society carefully read these articles before formulating his opinion for the poll which has now been taken. The results of this poll will be reported by our delegate, Dr. H. Thomas McGuire, to the A. M. A. at the Atlantic City meeting in June, along with information from similar polls of the other state societies.

On March 25th your President attended the first teaching seminar of 1959, arranged by our Education Committee. It was on the "Complications of Pregnancy," held at the Milford Memorial Hospital. It was well planned, a good meeting, and attended by twenty-eight physicians, most of whom were from Sussex County. The extension service of the Pennsylvania Hospital in Philadelphia, through its Department of Professional Affairs, was responsible for the program. I was much impressed with what Dr. F. MacD. Richardson, the Coordinator of the Department of Professional Affairs, said concerning this activity of his hospital. What the Pennsylvania Hospital is trying to do in its teaching seminars is to give to the small community hospitals and to the

County Medical Societies in and around Philadelphia the latest information on significant problems in the practice of medicine. The speakers are recruited from the hospital staff as far as possible; most of them hold faculty positions in the Philadelphia medical schools. The idea is sound and the Pennsylvania Hospital is to be congratulated and sincerely thanked for rendering this service to the doctors of Delaware and our area.

The speakers at the seminar were: Dr. J. T. Garnett, who spoke on the "Toxemias of Pregnancy," Dr. E. H. Bishop on the "Management of Bleeding of Pregnancy," Dr. Richards on the "Management of Infections in Pregnancy," and Dr. T. R. Boggs, Jr. on "Perinatal Mortality." Mimeographed outlines of each speaker's talk had been prepared by Dr. Richardson for distribution. If those who attended did not receive the information they came for and the answers to their questions, it was certainly not the fault of the speakers. Teaching seminars of this type can do more than anything I know of to keep us abreast with the advances in modern medicine. As many seminars can be arranged for as our members wish. If you have ideas on the subject, please drop your President or Executive Secretary a line.

Since the April letter was prepared, there has been a meeting of the Committee on Medical Sciences and Public Relations. Referred to this committee at its meeting on March 24th in Dover was the following question, proposed to each State Society by the A. M. A.: "Acknowledging the im-

portance of free choice of physician, is this concept to be considered a fundamental principle, incontrovertible, unalterable, and essential to good medical care without qualification?" Based on the 1958 study of the A. M. A.'s Commission on Medical Care Plans, the committee felt very definitely that the answer to this question must be in the negative. In giving this answer the committee wished to point out that it is not commenting on the desirability of free choice of physician, nor is it endorsing any particular plan or type of plan as a result of this study. It felt that good medical care can be given without free choice of physician. The committee has made two recommendations as follows: 1) the Society consider what types of health plans not now existing in Delaware are likely to be established and through what agencies, and 2) the Society offer its constructive advice to any such project in order to assist in the development of good patient care and good professional relations. These are certainly wise and sound suggestions. Your President hopes that if you have ideas on this subject you will communicate with the Chairman of this committee, Dr. Allston J. Morris, who, with other of his committee members, has given a great deal of thought to the subject.

The first meeting of the Committee on the Aged was held under the Chairmanship of Dr. C. J. Prickett, at the Welfare Home, in Smyrna, on April 8th. Dr. Prickett reported that a bill has been introduced in the legislature to establish within the framework of the organization of the Welfare Home a Citizens Council for the Aging.

The Council is to be composed of representatives of the many organizations, agencies, and groups concerned with problems of the aged and sub-committees of the same type to the number of approximately twenty-five will be established in every community in the state. The function of the State Society's Committee on the Aged will probably be to act in an advisory capacity to this Citizens Council, if established. As Dr. Prickett is the Chairman of our committee, and also will be responsible for the carrying out of the provisions of the legislative act, if passed. This whole program should have good solid medical leadership.

At the Annual Meeting on October 15th, it has now been decided to have a "Seminar on the Aged"; this should give considerable impetus to the thinking of our membership concerning what the physician of Delaware can and must do. Invitations to speak at this seminar have been sent to five outstanding national authorities; two acceptances have been received to date. With only a single day's meeting to attend and the new Academy Building to visit, your President thinks that the attendance at the 1959 meeting, with its "Seminar on the Aged," should be the largest we have had for some time. I trust I am right.

Your President hopes that every member of the State Society is planning to attend one or more sessions of the A. M. A. in Atlantic City, June 8th to the 12th. Let's make the attendance of Delaware physicians at this 1959 A. M. A. meeting the best we have ever had.

A. R. SHANDS, JR., M. D.
President

+ Editorials +

DELAWARE DIABETES ASSOCIATION

Congratulations to the youngest of our family of charitable health organizations for a grand job done in a short time!

Chartered in February, 1958, the Delaware Diabetes Association (D.D.A.) lost no time getting to the crux of the problem in Delaware and organized a diabetes detection program which was carried out in one week during the fall of the same year. During this first campaign, in which valuable assistance was received from the Delaware Pharmaceutical Association, the State and City Boards of Health, the press and the radio, 3,890 screening tests were performed.

Fifty-one positive tests were obtained for an average of 1.3 percent. This would suggest that there is one diabetic for every hundred persons in the state.

The importance of this testing program cannot be over-emphasized. We all know the value of an early diagnosis in the treatment of this disease. It is hoped that this program will increase in scope every year and that in the near future, all persons in Delaware will be covered by its protection.

The association office is located at the Academy of Medicine; telephone OLympia 2-2413.

LETTER TO THE EDITOR

Dear Sir:

You are probably aware that Dr. E. Hughes Nutter died on February 24, 1959.

I am interested in renting his office facilities furnished and equipped with everything necessary for a young doctor starting in practice, or unfurnished for a doctor with his own furniture and equipment who may desire to relocate.

The waiting room will accommodate twenty people. There is a secretary's office, consulting room, two treatment rooms and lavatory. The equipment includes: Profex-ray Mobile X-Ray Unit, Hand Fluoroscope,

Electrocardiograph, Diathermy, Metabolor, Hyfreacator and Miscellaneous accessories.

There are three entrances to insure privacy and convenience. The office is completely air-conditioned.

Would you be able to assist me by using your facilities for publicity to bring this subject matter to the attention of interns planning to go into practice this year or a practicing physician considering relocation.

Any consideration you may extend to me will be greatly appreciated.

Sincerely,

Mrs. E. H. Nutter



JAMES GUIE SPACKMAN, M.D.

1889 - 1959

When Doctor Spackman died on April 9th, Wilmington lost the man who had done more than any other individual to bring surgery to its place of high standing in this area. It was a rare privilege to practice in the same community with this man.

Born in Philadelphia in 1889, Doctor Spackman graduated in 1912 from Hahnemann Medical College where he interned and was surgical resident. He later moved to Wilmington where he joined the staff of the Homeopathic Hospital (later the Memorial Hospital) of which he was Director of the Department of Surgery for 31 years. After serving in France in World War I, his years of devotion to the practice of surgery were uninterrupted until his retirement from active practice.

A man is known by the company he keeps. Doctor Spackman was the respected friend and colleague of many of the greatest men in American surgery.

Our loss has been tempered by the living contributions to surgery he has left us.

DR. JAMES G. SPACKMAN

The following appeared as an editorial in the Wilmington Journal-Every Evening on April 10, 1959:

If gratitude for suffering eased and lives saved can keep memories green, and we believe it does, the memory of Dr. James G. Spackman, who died yesterday, will be green for many years to come.

Dr. Spackman, who headed the surgical department of The Memorial Hospital for the 31 years between 1919 and 1950, was one of the most skillful surgeons of his time. It was Wilmington's great good fortune that he was content to spend his life here, for his reputation was nation-wide.

Over the course of a busy career as a surgeon he performed nearly 12,500 major operations. But statistics can tell little of a sense of dedication which led him, on occasion, to carry an almost superhuman load. At one time it led him to undertake emergency operations for hours on end with a back so stiff and painful that he could not bend it or stand erect again without help.

Hundreds of patients whose lives he saved will recall his shy and gentle charm, his quiet smile, the conversations beside a convalescent bedside at the end of a surgeon's busy day. Younger surgeons will remember him for his advice and counsel. And the hospital he served so long will remember him, we feel sure, for all the contributions he made to its progress as a medical center over the years.

DR. JOHN W. HOOKER

Dr. John W. Hooker, a former member of the Medical Society of Delaware, died suddenly and unexpectedly on April 2, 1959.

A native of Wisconsin, Dr. Hooker graduated in medicine from Northwestern University. His pathological training was obtained at the Presbyterian Hospital in Philadelphia where he worked until he came to Wilmington in 1946 to become pathologist to the Memorial Hospital. While in Wilmington, he made many friends and was liked and respected by all who knew him. In 1950 he moved to Danville, Virginia where he was pathologist to the Memorial Hospital and was on the teaching staff of Bowman-Gray School of Medicine in nearby Winston-Salem. It was here that he died while lecturing at 44 years of age.



Underweight Children Gain and Retain Weight with Nilevar[®]

One of the most convincing evidences of the anabolic activity of Nilevar, brand of norethandrolone, has been its ability to improve appetite and increase weight in poorly nourished, underweight children.

A highly important feature of the weight gain thus produced is that it is not ordinarily manifested by deposition of fat but as muscle tissue resulting from the protein anabolism induced by Nilevar.

Anorexia and "Weight Lag" Study—Brown, Libo and Nussbaum have reported* consistent and definite increases in rate of weight gain in eighty-six patients, ranging in age from 7 weeks to 15½ years. This beneficial action of Nilevar was observed in the patients with organic and traumatic disorders as well as those whose only complaints were poor appetite and/or persistent failure to gain weight.

In this study, the weight gained was not lost

after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

G. D. Searle & Co., Chicago 80, Illinois.
Research in the Service of Medicine.

*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.

diagnosis: hypertension, moderate to severe

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(Rauwolfia Serpentina and Protoveratrine A & B Combined)

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HIGHLIGHTS FROM THE A.M.A. COUNCIL ON DRUGS

REPORT ON TRIAMCINOLONE

J.A.M.A. 169:257 (January 17) 1959.

"It [triamcinolone] has an anti-inflammatory potency greater than an equal amount of prednisolone; i.e., comparable suppressive effects may usually be achieved with lower doses of triamcinolone than with prednisolone."

"Triamcinolone lacks the sodium-retaining and edema-producing effects of most other glucocorticoids. During the first several days of administration, it may cause a loss of sodium from the body; an initial mild diuretic action is frequently observed, whether the patient is frankly edematous or not. This is in contrast to the definite sodium-retaining and fluid-retaining properties of cortisone and hydrocortisone and to a much lesser extent with prednisone and prednisolone."

"Except in exceedingly large doses, triamcinolone apparently has no consistent effect on potassium excretion. Hence, neither sodium restriction nor potassium supplementation is ordinarily required during therapy with this agent."

"As with other glucocorticoids, the long-term administration of triamcinolone results in definite catabolic effects, as indicated by impairment of carbohydrate utilization and negative protein and calcium balance. This catabolic effect, coupled with a lack of appetite stimulation which is apparently peculiar to triamcinolone, may produce weight loss that might be undesirable in some patients treated for long periods of time."

"...the voracious appetite, with weight gain and euphoria, characteristic of other steroids, is not seen with administration of triamcinolone."

"Triamcinolone has been used for the management of a wide variety of clinical conditions usually considered amenable to systemic steroid therapy. These have included rheumatoid arthritis and other collagen diseases, allergic and dermatological disorders, certain leukemias and malignant lymphomas, the nephrotic syndrome, pulmonary emphysema and fibrosis, acute bursitis, rheumatic fever, and certain blood dyscrasias. Although clinical experience with the drug in some of the foregoing conditions is not extensive, the many similarities in action between triamcinolone and other potent glucocorticoids would indicate a usefulness for triamcinolone akin to that of other agents of this class."

"There is some evidence that triamcinolone is more effective at a smaller dosage than are other steroids in controlling both the skin and joint lesions in psoriasis, whether or not complicated by arthropathy."

"Triamcinolone appears to compare favorably with other steroids for use in those situations in which edema and sodium retention have been complicating problems."

"It [triamcinolone] may also be the steroid of choice for patients in whom psychic stimulation, euphoria, voracious appetite, and weight gain should be avoided."

"...the drug [triamcinolone] does produce the other side effects and untoward reactions common to the glucocorticoids. At therapeutically equivalent doses, the frequency and severity of clinical manifestations of hyperadrenalism — rounding of the face, fat deposition, and hirsutism — are essentially the same. Likewise, there is little indication that the relative incidence of osteoporosis is materially decreased after the long-term use of the drug."

"Triamcinolone apparently does not cause the euphoria sometimes seen with other steroids, and the occurrence of mental depressions is uncommon."

"Current evidence suggests that the drug [triamcinolone] may not produce as high an incidence of peptic ulcer as do other steroids."

"Cutaneous erythema seems to be a side effect peculiar to triamcinolone."

"The usual contraindications and precautions of glucocorticoid therapy should be followed in the use of triamcinolone, keeping in mind that prolonged therapy with this drug will suppress the function of the patient's own adrenals by interfering with the pituitary-adrenal axis."

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Supplied: 1 mg. scored tablets (yellow)
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4 mg. scored tablets (white)



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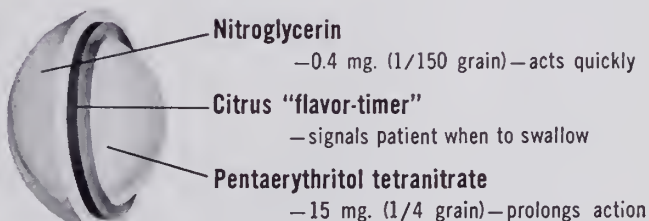
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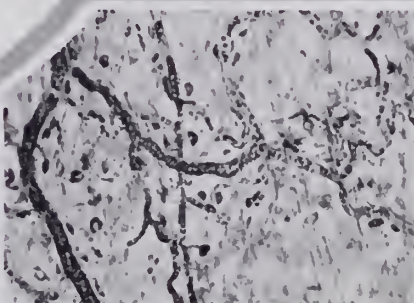
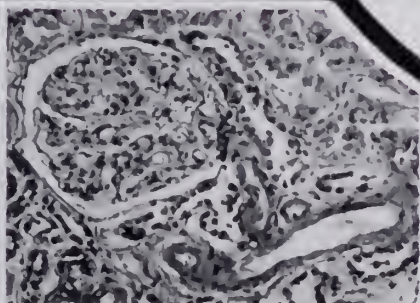
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WITHOUT FEAR OF SIGNIFICANT POTASSIUM DEPLETION¹⁻³

Rautrax combines Raudixin with flumethiazide — *the new, safe nonmercurial diuretic* — for control of all degrees of hypertension. Clinicians report it safely and rapidly eliminates excess extracellular sodium and water without potassium depletion.¹⁻³ Potassium loss is less than with any other nonmercurial diuretic.¹ Moreover, the inclusion of supplemental potassium chloride in Rautrax provides added protection against potassium and chloride depletion in the long-term management of hypertension.

Through this dependable diuretic action of flumethiazide, the clinical and subclinical edema — so often associated with cardiovascular disease — is rapidly brought under control.²⁻⁵ And once Rautrax has brought the fluid balance within normal limits, continued administration does not appreciably alter the normal serum electrolyte pattern. Flumethiazide also potentiates the antihypertensive action of Raudixin. By this unique dual action, a lower dosage of each ingredient effectively maintains safe antihypertensive therapy.

Dosage: 2 to 6 tablets daily in divided doses initially; may be adjusted within range of 1 to 6 tablets daily in divided doses. **Note:** In hypertensive patients already on ganglionic blocking agents, veratrum and/or hydralazine, the addition of Rautrax necessitates an immediate dosage reduction of these agents by at least 50%. A similar reduction is necessary when these agents are added to the Rautrax regimen.

Supply: Capsule-shaped tablets supplying 50 mg. of Raudixin, 400 mg. of flumethiazide, and 400 mg. of potassium chloride, bottles of 100.

References: 1. Moyer, J. H., and others: *Am. J. Cardiol.*, 3:113 (Jan.) 1959. • 2. Bodi, T., and others: To be published, *Am. J. Cardiol.*, (April) 1959. • 3. Fuchs, M., and others: *Monographs on Therapy*, 4:43 (April) 1959. • 4. Montero, A. C.; Rochelle, J. B., III, and Ford, R. V.: To be published. • 5. Rochelle, J. B., III; Montero, A. C., and Ford, R. V.: To be published.

LITERATURE AVAILABLE ON REQUEST.

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No bitterness, no unpleasant aftertaste—just pure, sweet citrus flavor.

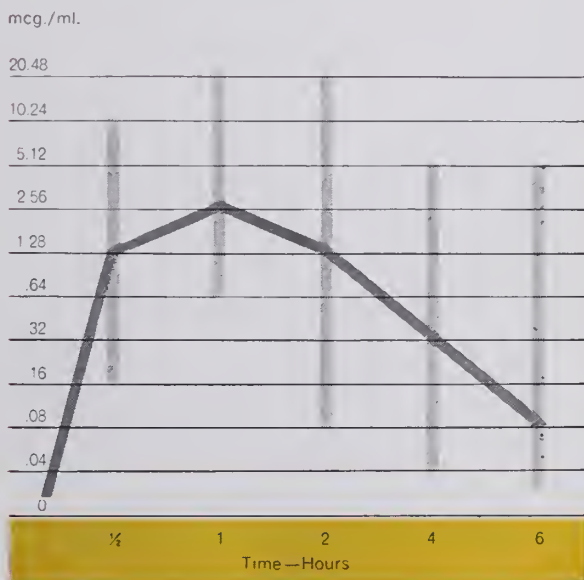
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Indications: Against staph-, strep- and pneumococci. Especially useful when patients are allergic to penicillin or other antibiotics. **Dosage:** For children, 30 mg./Kg. per day. Adults, 1 to 2 Gm., depending on severity of infection. **Supplied:** In 60-cc., pour-lip bottles. Each 5-cc. teaspoonful represents 200 mg. of Erythrocin. **Abbott**

If you're concerned with blood levels . . .

Range of blood levels obtained from one dose of 400 mg. ERYTHROCIN SUSPENSION. Medication was administered to 30 volunteer adults, and represents a dosage of approximately 6 mg./Kg. Bars show ranges—continuous line indicates medians.



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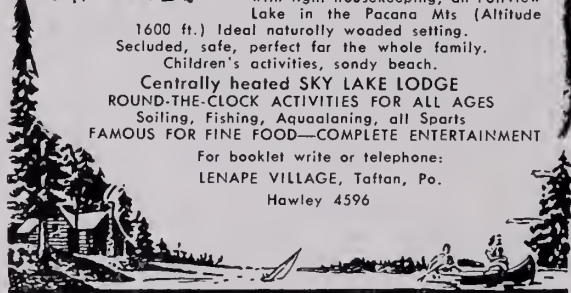




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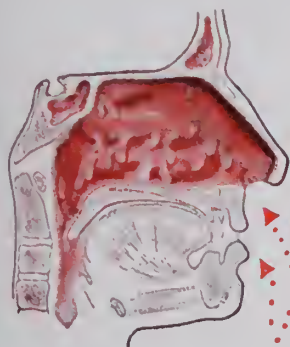
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The decongestive action of orally active phenylpropanolamine helps contract the engorged capillaries, reducing congestion and bringing prompt relief from nasal stuffiness, rhinorrhea, sneezing and sinusitis.^{4,5}

TRIAMINIC is orally administered, systemically distributed and reaches *all* respiratory membranes, avoiding nose drop addiction and rebound congestion.^{6,7} TRIAMINIC can be prescribed for prompt relief in summer allergies, including hay fever.

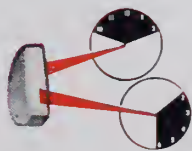
References: 1. Sheldon, J. M.: Postgrad. Med. 14:165 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy 19:19 (Jan.) 1948. 4. Goodman, I. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: I.F.N.T. Monthly 37:160 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. 112:259 (Dec.) 1957. 7. Larner, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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TRIAMINIC provides around-the-clock freedom from hay fever and other allergic respiratory symptoms with just one tablet q. 6-8 h. because of the special timed-release design.

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1. Hodges, F. T.:
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Menger found ANTIVERT "improved or controlled symptoms in virtually 90% of vertiginous patients."²

Indications: Meniere's syndrome, arteriosclerotic vertigo, labyrinthitis, and streptomycin toxicity. Also effective in recurrent headache, including migraine.

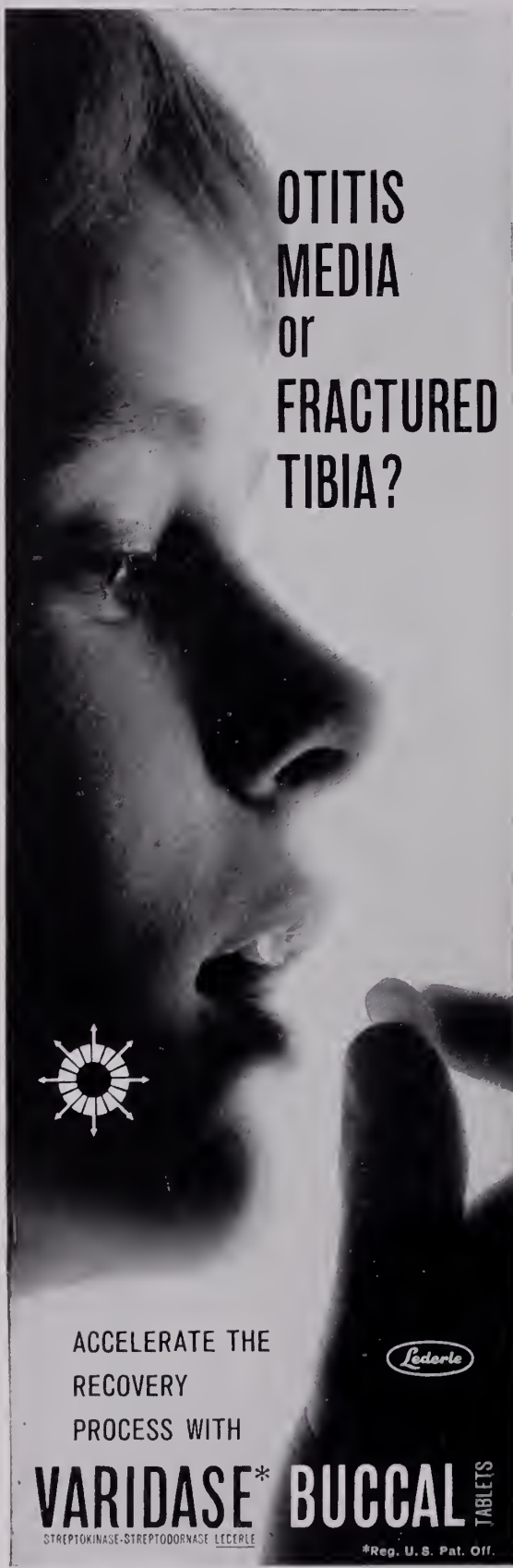
Dosage: one tablet before each meal.

Supplied: bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Charles, C. M.: *Geriatrics* 2:110 (March) 1956. 2. Menger, H. C.: *Clin. Med.* 4:313 (March) 1957. 3. Shuster, B. H.: *M. Clin. North America* 40:1787 (Nov.) 1956.



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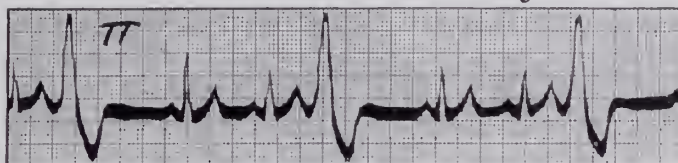
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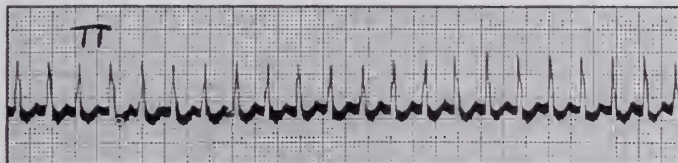
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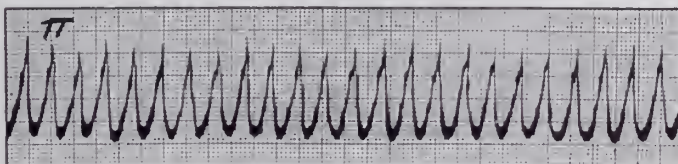
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1. Premature ventricular contractions



2. Paroxysmal auricular tachycardia



3. Paroxysmal ventricular tachycardia

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Vistaril is effective in ventricular extrasystoles and paroxysmal tachycardias (both auricular and ventricular).

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proven calming action indicated for arrhythmia patients.

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of Vistaril as compared to other antiarrhythmic drugs in general use has been noted by investigators.

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(individualized by the physician for maximum effectiveness):

PARENTERAL DOSAGE: 50-100 mg. (2-4 cc.) I.M. stat., and q. 4-6 h., p.r.n.; maintain with 25 mg. b.i.d. or t.i.d. In acute emergency, 50-75 mg. (2-3 cc.) I.V. stat.; maintain with 25-50 mg. (1-2 cc.) I.V. q. 4-6 h., p.r.n.

ORAL DOSAGE: Initially, 100 mg. daily in divided doses until arrhythmia disappears. For maintenance or prophylaxis, 50-75 mg. daily in divided doses.

SUPPLY: Vistaril Capsules, 25 mg., 50 mg. and 100 mg. Vistaril Parenteral Solution, 10 cc. vials and 2 cc. Steraject® Cartridges. Each cc. contains 25 mg. (as the hydrochloride).



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References: 1. Burrell, Z. I., et al.: Am. J. Cardiol., 1:624 (May) 1958. 2. Hutcheon, D. E., et al.: J. Pharmacol. & Exper. Therap., 118:451 (Dec.) 1956.

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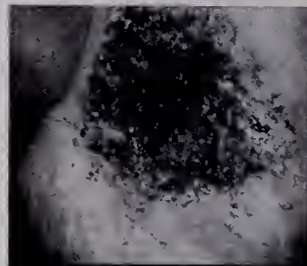
References: 1. Shelmire, J.B., Jr.: Monographs on Therapy 3:164 (Nov.) 1958. • 2. Nix, T.E., Jr., and Derbes, V.J.: Monographs on Therapy 3:123 (Nov.) 1958. • 3. Robinson, R.C.V.: Bull. School of Med., U. Maryland 43:54 (July) 1958. • 4. Sternberg, T.H.; Newcomer, V.D., and Reisner, R.M.: Monographs on Therapy 3:115 (Nov.) 1958. • 5. Clark, R.F., and Hallett, J.J.: Monographs on Therapy, 3:153 (Nov.) 1958. • 6. Smith J.G., Jr.; Zawisza, R.J., and Blank, H.: Monographs on Therapy, 3:111 (Nov.) 1958. • 7. Monographs on Therapy, 3:137 (Nov.) 1958. • 8. Howell, C.M., Jr.: North Carolina M.J. 19:449 (Oct.) 1958. • 9. Bereston, E.S.: South. M.J. 50:547 (April) 1957. And whatever the topical corticoid need, a suitable Squibb formulation is available—Kenalog-S Lotion—7½ cc. plastic squeeze bottles. Each cc. supplies 1.0 mg. (0.1%) triamcinolone acetonide, 2.5 mg. neomycin base and 0.25 mg. gramicidin. Kenalog Cream, 0.1%—5 Gm. and 15 Gm. tubes. Kenalog Lotion, 0.1%—15 cc. plastic squeeze bottles. Kenalog Ointment, 0.1%—5 Gm. and 15 Gm. tubes.



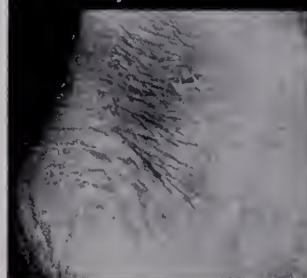
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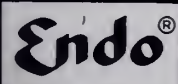
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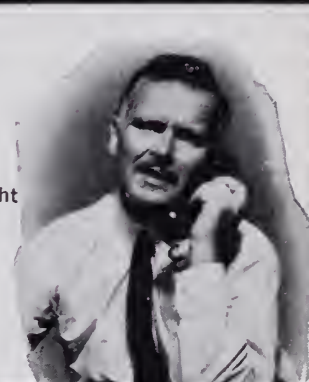
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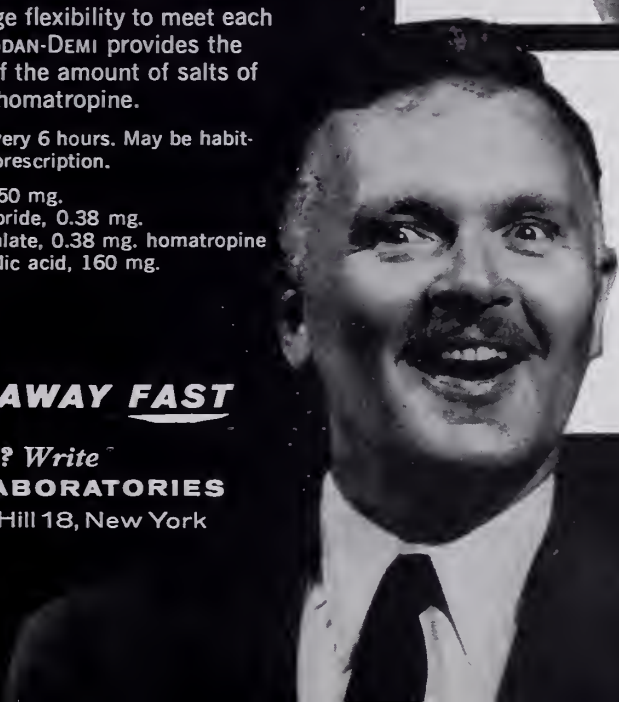
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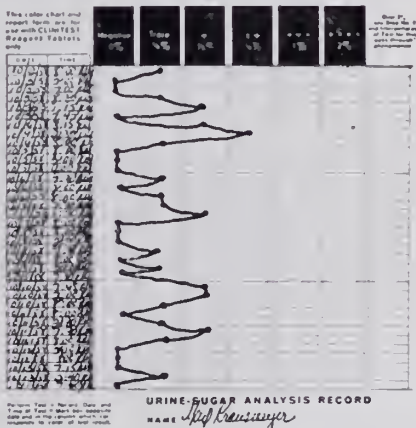
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Source: Joslin, E. P.; Root, H. F.; White, P., and Marble, A.: The Treatment of Diabetes Mellitus, ed. 9, Philadelphia, Lea & Febiger, 1952, pp. 701-702.

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MEDICAL JOURNAL**

Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31

JUNE, 1959

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PULMONARY PROBLEMS

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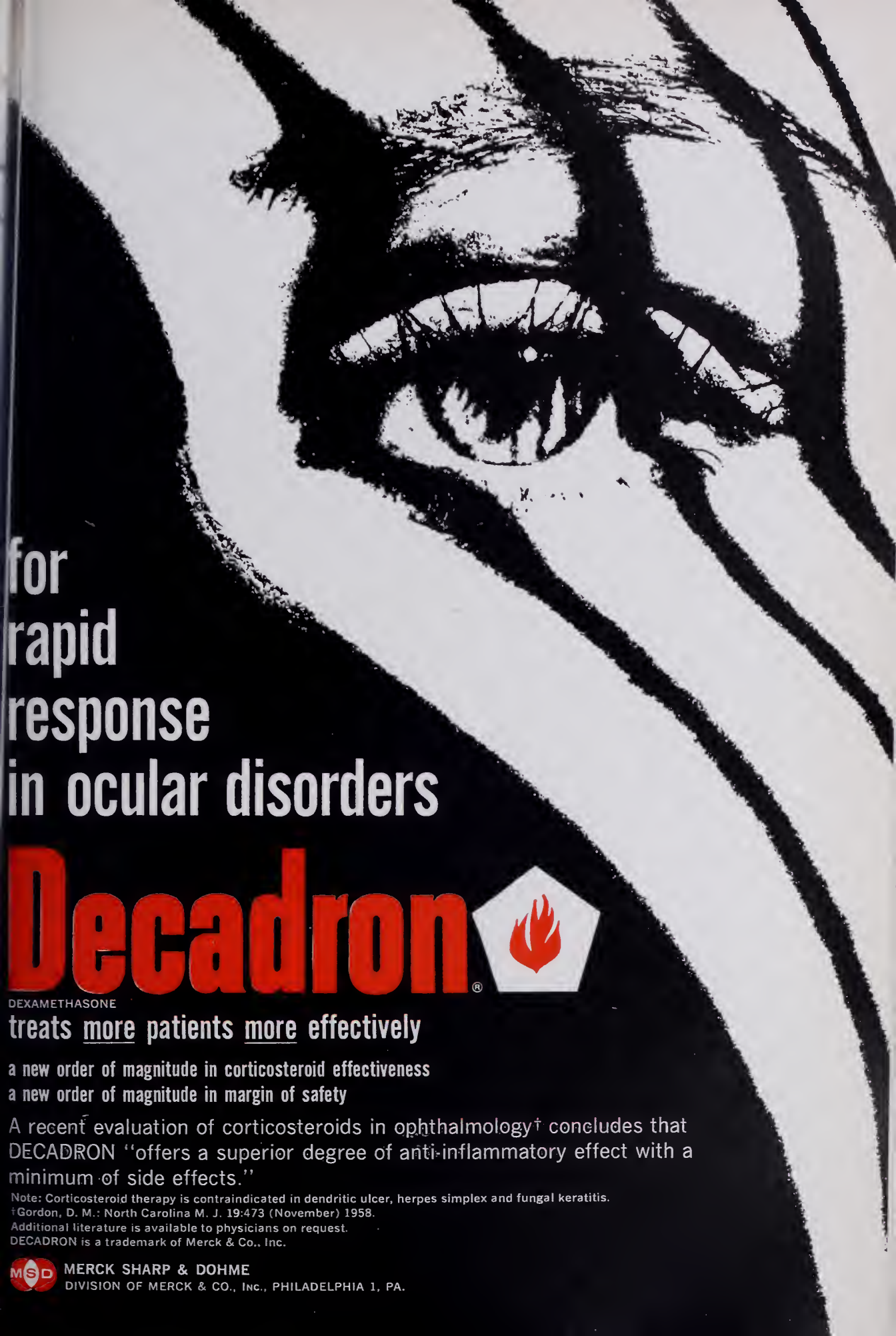
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(1) Ernst, E. M., and Snyder, A. M.: *Pennsylvania M. J.* 61:355, 1958.

(2) Preisig, R., and Landman, M. E.: *Am. Pract. & Digest Treat.* 9:740, 1958.

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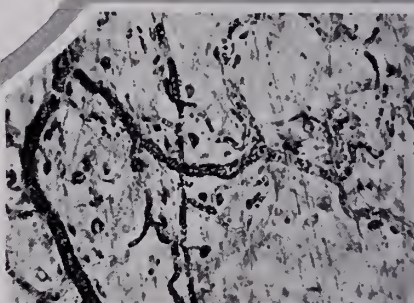
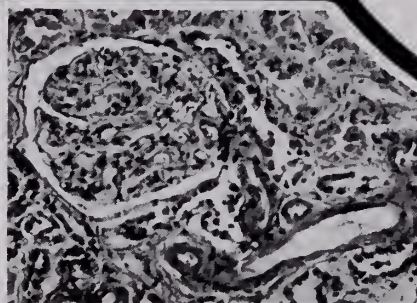
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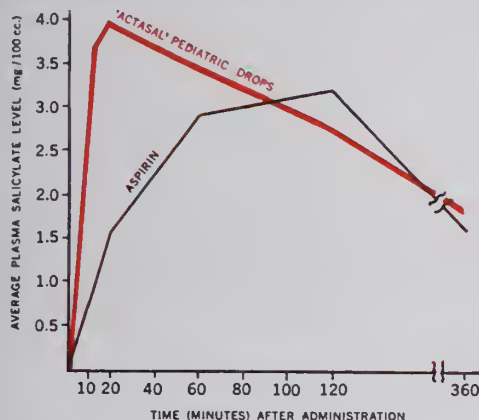
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CITED REFERENCES: 1. Smith, P. K.: Personal Communication. 2. Wolf, J., Aboody, R.: Federation Proc. 18:605, 1959. 3. Broh-Kahn, R. H.: Federation Proc. 18:17, 1959. 4. Complete data available on request to the Medical Director.

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AFTER THERAPY

Bialkin, G.: Scientific Exhibit, American Academy of General Practice, San Francisco, April 6-9, 1959.

CASE HISTORY: J. D., a 5 month old white male developed a dry seborrhea capitis at approximately 6 weeks after birth which covered the whole scalp. By the time of examination, the child had been treated with various detergent ointment and lotion preparations without apparent effect. 'Soroapon' Pediatric Solution was applied as a shampoo, directly to the scalp to remove the encrustations. A lanolin ointment was applied to scalp because of inherent dryness. A series of 5 treatments was required for complete removal and after this treatment period the seborrheic eczema had virtually disappeared. The patient has been symptom free since then.

Bialkin, G.: A New Anti-Seborrheic Agent in Pediatric Practice. Arch. of Ped. (to be published).

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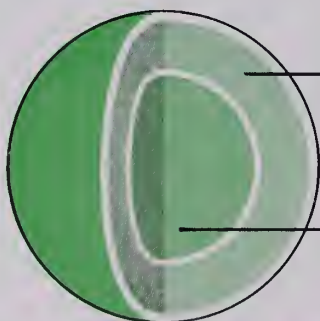
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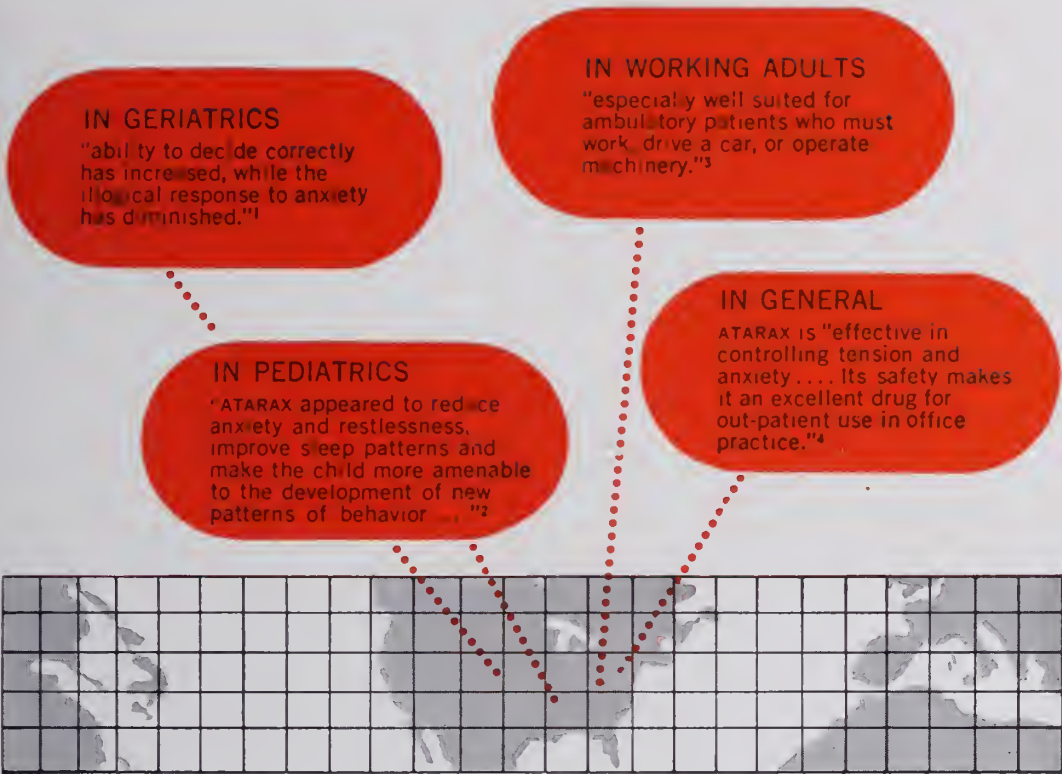
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For severe emotional disturbances	100 mg. tablets	one tablet t.i.d.	• 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.
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References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959.

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Source: Vazquez, S. G.: J. Internat. Coll. Surgeons 28:394, 1957.

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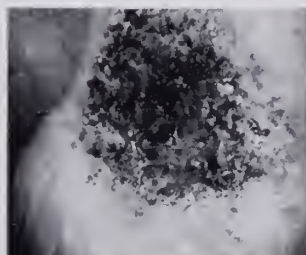
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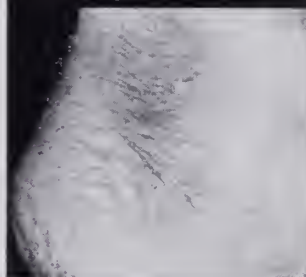
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1. Editorial: *New England J. Med.* 258:48, 1958.

2. Vinnicombe, J.: *Antibiotic Med. & Clin. Ther.* 5:474, 1958.

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PULMONARY PROBLEMS: A PANEL DISCUSSION*

- I. The Management of Pulmonary Malignancies by SYLVAN H. EISMAN, M.D.†
II. Pulmonary Function Studies in Diagnosis and Prognosis by ROBERT L. MAYOCK, M.D.‡
III. Sensitivity Tests to Antibiotics in Clinical Practice by ELWOOD L. FOLTZ, M.D.§

I think you know Dr. Gerald Beatty.

Dr. Eisman will discuss "The Management of Pulmonary Malignancies," Dr. Mayock will speak on "Pulmonary Function Studies in Diagnosis and Prognosis" and Dr. Foltz will speak on "Sensitivity Tests to Antibiotics in Clinical Practice." I will turn the panel over to Dr. Beatty.

Dr. Beatty: I would first like to ask Dr. Eisman to speak on "Management of Pulmonary Malignancies."

Dr. Sylvan H. Eisman: Most of my discussion will be concerned with the chemotherapeutic and medical management of the inoperable carcinoma of the lung. As you can appreciate, the incidence of carcinoma of the lung is definitely on the increase, and it is becoming a more and more serious problem to the practitioner.

My surgical colleagues have asked me to make a plea for early diagnosis and early exploration in a patient suspected of having a bronchogenic carcinoma. Often we wait for the x-ray findings to make the diagnosis for us by following them along until the opportunity of resectability has passed and then we are forced, of course, to rely on palliative measures such as x-radiation and chemotherapeutic agents.

One of the most common problems in diagnosis is the patient with so-called virus

pneumonia, which never seems to clear. This is by no means meant to imply that everybody with a virus or bronchial cold has bronchopneumonia, but many of us have seen patients who have developed a pulmonary infection (or so it appears) with fever, and x-ray findings of an infiltrate which, as we follow it, never seems to completely go away. This should raise our index of suspicion highly with regard to the possibility of there being an underlying tumor present.

With regard to the coin lesion, the isolated nodule that is found in the chest, generally asymptomatic, this is generally the best type of patient to get with regard to curing bronchogenic pneumonia. Generally if we wait for hemoptysis or pain due to pleural involvement, we have again passed the period of resectability. Often bronchogenic carcinoma presents itself first by a distant metastasis. We have seen all kinds of peculiar clinical presentations. We have seen all kinds of peculiar clinical presentations. We have seen purpura as being the first manifestation of the disease due to invasion of the bone marrow with malignant cells and subsequent thrombocytopenia. Many of us have seen patients admitted to the orthopedic section of the hospital with low back pain or pain in the leg due to metastatic lesion before the primary tumor in the lung makes itself evident. For many years it has been a rule among all neurosurgeons that given a patient who is suspected of having a brain tumor, they must never get to the operating table before

* From the School of Medicine, University of Pennsylvania. Presented at the Annual Meeting of the Medical Society of Delaware, October 2, 1958. Stenographic notes not edited by the individual authors.

† Associate Professor of Clinical Medicine

‡ Associate Professor of Clinical Medicine

§ Assistant Professor of Medicine

having a chest x-ray because often the first evidence of the bronchogenic tumor is some central nervous system disorder due to a metastatic lesion.

One final word about diagnosis, and this has to do with the contraindications for surgery that can be pretty well established on clinical grounds alone: It is my feeling that the presence of fluid, of pleural effusion with a carcinoma of the lung, whether or not you can demonstrate malignant cells, means inoperability. There have been some heroic attempts made to strip the parietal pleura under these circumstances, but the end result has been quite unsuccessful. So that the thoracic surgeons now, given a patient suspected of having a bronchogenic tumor and who has a pleural effusion, consider the case inoperable.

The same thing is true where you have involvement of the recurrent laryngeal nerve. This is essentially also in the inoperable category. There is one exception perhaps to nerve involvement, and that is where the phrenic on the left side is involved. When you fluoroscope a patient and ask him to sniff and look for paradoxical motion of the diaphragm, one can often demonstrate paralysis of the phrenic nerve on one side. This generally will mean inoperability. However, if the tumor catches the phrenic nerve as it passes down over the pericardium, under some circumstances the surgeon is able to resect the tumor. Therefore, a positive sniff test does not necessarily mean inoperability.

Finally there are a few patients who have had a congenital paralysis of one hemidiaphragm and will show a positive sniff test on fluoroscopy. This does not necessarily mean they have a carcinoma or that the carcinoma, if it be present, has involved the phrenic nerve. Distant metastasis like supraclavicular lymph nodes and x-ray evidence of bony spread, obviously are contraindications for surgery.

Let us consider some of the measures that the internist has to offer with regard to the inoperable patient, because the fig-

ures are still discouraging. The five-year survival rate of carcinoma of the lung in operated patients is under 10 per cent, perhaps closer to 5 per cent. The percentage of five-year cures in resectable cases is a little higher but is still far from satisfactory. Therefore, we are faced with an increasing number of people with inoperable carcinoma of the lung who are getting into all sorts of difficulties, apart from distant metastasis to bones, to the lumbar spine or thoracic spine or metastasis to the brain.

One serious problem is the superior caval syndrome, obstruction of the superior vena cava, due either to direct invasion of the vessel by tumor or compression of the superior vena-cava by tumor or lymph nodes containing metastatic disease. It can be a distressing problem for the patient, not just a swelling of the neck, face and hands that ensues, but the real obstruction that takes place in the trachea from edema and compression of tumor so that breathing and talking become difficult.

We have some fair degree of success, temporarily. None of the things I shall mention are curative but degrees of palliation and a certain percentage of palliation has been achieved by the judicious use of x-ray therapy, combined with or separately used with nitrogen mustard intravenously. We generally have given nitrogen mustard on the basis of three-tenths, even up to six-tenths of a milligram per kilogram of body weight in one injection, and after the usual hematologic response, in other words, the leukopenia that ensues about 7 to 14 days after the treatment, one can repeat this again. In some instances, if you alternate x-radiation to the mediastinum with courses of nitrogen mustard, we sometimes see that the nitrogen mustard seems to potentiate the effect of x-ray, and in perhaps 25 to 30 per cent of these patients there is a sufficient reduction in the size of the tumor to relieve the edema and compression that has taken place.

Symptomatic relief for cough and dyspnea due to carcinoma of the lung, as well as pain involving the pleura or ribs, requires

therapy and x-radiation has something to offer.

Another major problem that needs to be faced in these patients is the management of the recurrent pleural effusion that frequently occurs. It is distressing, to the patient to fill up with 1500 to 2000 cc. of fluid in one hemithorax every three or four weeks. Each time that you do a thoracentesis you run the risk of introducing infection into the pleural cavity as well as inconveniencing the patient and causing him a certain amount of stress.

Attempts have been made for a number of years to devise means of reducing the need for recurrent tapping. Initially radioactive gold, Au 198, was used intrapleurally and about 50 per cent of patients would get an adhesive pleuritis and enough reaction on the miliary nodules that were seated along the pleura to prevent recurrent effusion. This is still a satisfactory way of preventing effusion, but there are a number of difficulties involved. First, when using radioactive materials, you need complete equipment. Secondly, the material is expensive. Thirdly, it is not readily available. You have to order it specially, and it requires a certain number of safety measures to the operator who is injecting it into the pleural space.

So, for a number of years the use of nitrogen mustard directly into the pleural space has been employed. Again in about 50 per cent of patients the necessity for recurrent tapping is diminished or eliminated entirely. This does not necessarily apply only to bronchogenic carcinoma. It has been successful in patients with breast cancer, with recurrent pleural effusion and ovarian cancer, and even with gastrointestinal disease that has spread to the lung and pleura. It has been our usual technique to drain the chest as dry as possible through an ordinary 15 or 16 gauge needle.

Some people have used larger needles and introduced a small polyvinyl catheter through the needle leaving the catheter in place for several hours, getting the tip of

the catheter down into the costo-phrenic sac as low as possible and draining the chest completed dry. It is not necessary to drain the chest cavity dry because one would prefer to have a little fluid left to act as a menstruum, to distribute the material after it is injected.

We leave 200 or 300 cc.; then, making sure that the needle is still in the pleural space (because the mustard is dangerous if it gets within the lung tissue itself or slips out beyond the pleura) 20 to 30 milligrams of nitrogen mustard is injected through the needle into the pleural cavity and followed with 50 or 100 cc. of saline. The needle is withdrawn and the patient rotated in his own bed by changing his position every 30 seconds for the next 15 minutes. By that time the mustard is fixed and further motion is unnecessary.

In some instances this has reduced the need of tapping from every two or three weeks to, in one case I know, indefinitely. If the fluid is particularly bloody under the circumstances there is a good possibility that there will be a fair amount of absorption of nitrogen mustard into the systemic circulation, and one has to watch the blood count just as he would using nitrogen mustard intravenously. If the fluid is relatively clear, the chances of hematologic effect or depression are small. Most people get enough to become a little nauseous and sometimes vomiting lasts for four to six hours, but this is not really a problem. Nitrogen mustard is readily available to all of us, it is inexpensive and the procedure can be done simply.

One word of caution: about 48 or 72 hours later one frequently sees an active recurrent effusion. This is perhaps a good sign because it represents a chemical or an irritative pleuritis with effusion. If you tap this and remove the fluid within a couple of days after the installation the chances are not bad that you have been able to cause enough adhesive pleuritis and fibrous pleuritis to seal off the cavity and prevent the recurrence of effusion.

Finally, one last word, and this has to do with the newer chemotherapeutic agents

for the treatment of inoperable malignancy. Nitrogen mustard has been the prototype of a great many agents. We are currently working with other agents obtained from Germany of which nitrogen mustard is the first, which seem to have promise in producing palliation. They have a broader safety range. The therapeutic and toxic range of nitrogen mustard is unfortunately close, but we have been able to use some of other agents intravenously at weekly injections. We are able to use them sometimes for many months, and in some instances we have kept the tumor from growing, although certainly in most instances we have not caused much change in size. However we have but a few dramatic results, and where there has been distant metastasis without any x-radiation there has been relief from pain with the use of these agents.

Other groups of drugs will be used eventually. Certain of the antibiotics are being studied but this is still in the experimental area.

In relation to an adjuvant program of combined chemotherapy and surgery at the time of operation for carcinoma of the lung, there is underway in a number of medical schools and teaching institutions a program to study the effect or efficiency of combining chemotherapy at the time of operation. If we have a person in the operating room who appears to have a resectable lesion, the patient is randomized. Some are control cases and others, according to the card that is drawn for the particular patient, are put in the adjuvant program. They are given a tenth of a milligram of nitrogen mustard intravenously on the day of operation and the same dose is repeated for the next two days. While the chest cavity is open, a similar dose (a tenth of a milligram of mustard per kilo of body weight) is injected into the pleural space and washed around with saline, and the chest cavity is closed. The statisticians tell us that within two years they will have had enough experience collected to decide whether or not this program has improved the survival rate in patients with resectable

carcinoma of the lung. The study is just under way, it is not yet a year old. Perhaps in a couple of years we can give a follow-up on it.

Thank you.

Dr. Beatty: Thank you very much Dr. Eisman.

Now I would like to call on Dr. Mayock, who will discuss a subject that is very interesting to us, "Pulmonary Function Studies in Diagnosis and Prognosis."

Dr. Robert L. Mayock: Many physicians are disappointed with the results of pulmonary function studies. I believe that this disappointment oftentimes is a reflection of the fact that the physician expects more from the studies than the studies are able to give.

I thought rather than go into the techniques of pulmonary function studies that I would consider three things with you: First, what pulmonary function studies can not do. Second, what pulmonary function studies can do. Third, patients for whom it would be advisable to obtain pulmonary function studies. For the practicing physician, medical man, internist, general practitioner or surgeon, these are the things we have to deal with most and the techniques, although able to be performed in our offices, oftentimes are performed elsewhere, in the hospital or in a large center.

First, what pulmonary function studies can not do. Pulmonary function studies can not give a bacteriologic, pathologic or anatomic diagnosis. This comes as a shock, I know, when we hope to obtain more from the studies than we are able to do. Pulmonary function studies can tell us, however, what perimeter of pulmonary function is disturbed and can give us a quantitative answer in terms of an actual number. I will say more about that later.

If airway obstruction is present due either to a tumor, emphysema or bronchial asthma, one will see exactly the same findings on the pulmonary function studies.

Therefore, one often can not decide which might be causing the actual difficulty that is detected.

Another finding might be that of the presence of an arteriovenous shunt with venous blood entering the arterial circulation. This shunt obviously could be through the lung itself, as we have in pulmonary arteriovenous fistula. It could be through the heart, or it could be through a consolidated area of lung due to ordinary lobar pneumonia. Similarly, if one detects that the stiffness is present in the lung as we determine by other studies, the stiffness could be due to Hamman-Rich syndrome, sarcoidosis or fibrosis from pulmonary tuberculosis.

In addition to not being able to give us the diagnosis in the sense that we ordinarily think of it but rather only in terms of functions arrangement, pulmonary function can not detect localized disease if the disease is small. If you have a patient with minimal tuberculosis but otherwise healthy lungs there will be no abnormality of pulmonary findings. If blebs are present on the apices of both lungs, it is difficult, unless the blebs are large, to detect them. They can be detected only by a special technique available in only two or three institutions in the country.

Therefore, if the disease is extremely localized and does not affect the overall function of the lung, no abnormalities will be noted. There are circumstances, however, where the bronchogenic carcinoma that I mentioned before is producing tracheal obstruction. In this case, there will be interference with the airway and a resultant abnormality which can be detected. If the anatomic lesion happens to be strategically placed it is sometimes possible to obtain evidence of difficulty, but not otherwise.

What can pulmonary functions do? What can we get from the studies so far as the management of patients is concerned? As I said before, basically they tell us what perimenter of pulmonary function is deranged, and they will give us a quantita-

tive answer in terms of the number. The numerical answer given usually is repeatable. If you do a series of vital capacities they will be within the same range, within perhaps 10 per cent if the patient is cooperative and in the same physiologic state. This is something that we can compare not only with examinations done on other patients but also with examinations on the same patient and, therefore, it can be of help in prognosis and follow-up of either the progress of the disease or the effects of therapy.

It is important to recognize what aspect of pulmonary function is affected because any physiologic treatment that is given must be given on the basis of the physiological abnormality that is produced. For instance, if we have cyanosis with polycythemia present and on study it is found to be due to a hypo-ventilation syndrome because of obesity and excessive work of respiration, it would be treated in an entirely different fashion from the same cyanosis with polycythemia present in a patient with obstructive pulmonary emphysema.

If therapy is to be on the basis of physiologic changes, toward which we are heading more and more, rather than the use of the same measures in the treatment of every patient, then one must know exactly the difficulty that is present. For instance, it may be possible to improve ventilation, especially in an acute situation, with narcosis. If the difficulty is due to depression of the respiratory center mechanical assists of respiration will be of benefit.

Other difficulties with ventilation can often be treated as in obesity syndrome; simple loss of weight will cure the patient's syndrome.

Airway obstruction can be relieved, if it is localized. This can be done by bronchoscopic techniques; if more diffused and generalized, bronchial dilators, either systemically or aerosol, are given. Positive pressure will often relieve the obstruction and completely aid the patient.

The diffusion difficulty produced by sarcoidosis responds to steroid therapy. We

may have the same diffusion difficulty produced by miliary tuberculosis which would respond to treatment with the drugs ordinarily used in the management of tuberculosis. The recognition of this difficulty is of prime importance so far as the patient is concerned.

Another thing that pulmonary function can do is provide an evaluation for the response to therapy. If one obtains base line studies in an individual—even simple studies such as the vital capacity, second vital capacity, maximum breathing capacity—and institutes therapy, he has by repeating these studies, an objective measure of the patient's response rather than a subjective one. We know the importance of the subjective impression, but following treatment for tuberculosis one obtains a follow-up x-ray. It is advisable in evaluating the patient as a whole to determine his response to therapy by repeating the perimeter of pulmonary function which is found abnormal, whether it be ventilation or measurement of the air flow or diffusion or of compliance. Similarly you can obtain an evaluation of the response to treatment.

Another thing it can be used for more immediately is to determine the reversibility of certain components of pulmonary function abnormalities, such as air flow resistance. In patients with asthma it is often of interest to know how much wheezing and airway obstruction is due to asthma and how much to an underlying emphysema secondary to the asthma. This can be found by giving the patients broncho-dilators following a base line set of pulmonary function studies. The response can be evaluated and the amount of permanent damage to the airways can be estimated. Frequently this involves the use of steroids in addition, but one can obtain some estimation of permanent damage as opposed to the reversible broncho spasm seen in simple asthma.

Another use for pulmonary function studies is the detection of malingering. This is particularly important in medico-legal work where one is dealing with a patient whose subjective response frequently will decide whether or not they obtain disability. We see it occasionally in patients who

are psychiatric problems, who complain of dyspnea and one is unable to obtain any clinical evidence of the reason for it. But often a malingerer can be detected by having a relatively normal set of pulmonary function studies. In industrial patients with exposure to dust and fumes in which symptoms are supposedly on the basis of pneumoconiosis, one can separate the exact degree of pulmonary function involvement.

When are pulmonary function studies indicated so far as the average physician is concerned? This is hard to state categorically, but I would like to say that I think that whenever the patient's symptoms can not be adequately explained by the clinical picture the patient should have pulmonary function studies. That is, if you have a patient with excessive cyanosis and a minimal amount of pulmonary emphysema and feel it is beyond what one would expect for that amount of disease, it is worthwhile to determine whether some other abnormality is not present which may be amenable to therapy.

In the evaluation of the patient clinically one uses the standard history, physical examination and chest x-ray, and the amount of pulmonary function studies varies depending on facilities available at the institution or in the office. But I think that any patient in whom we feel that we do not have an adequate and satisfactory explanation for symptoms should have function studies.

Often other abnormalities are suspected in individuals. One will suspect that two diseases may be present in the same individual. For instance, a patient may be dyspneic because of cardiac disease and because of x-ray changes or other findings pulmonary disease may seem to be present. It is possible to determine fairly accurately today, with the more advanced techniques of testing, how much is due to simple congestive failure and how much is due to other types of pulmonary disease.

Other indications for pulmonary function testing would be, as I have mentioned before, as a base line for therapy. I think patients with emphysema should have base

line studies of a simple nature. You take an x-ray routinely, do a history and a physical, and it is just about as easy to get the vital capacity and the time vital capacity since they usually are available in the doctor's office or nearby.

The most dramatic probable use for the pulmonary function study is the evaluation of patients for surgery. Obviously every patient who is having a pulmonary operation does not need complete pulmonary function studies, although it is routine in most institutions during thoracic surgery. If someone is able to run a mile, he could stand operation on either lung without difficulty because this involves a tremendous amount of pulmonary function. Therefore, patients ordinarily in good health and without any clinical evidence of pulmonary disease can stand surgery on either lung without difficulty in most instances. But any patient who has evidence of a diffuse emphysema—and I am speaking of obstructive pulmonary emphysema—which we see often in older individuals, should have pulmonary function studies designed to determine whether not following surgery they will have enough pulmonary function to be able to survive. We have all seen pulmonary crimes produced by the resection of a carcinoma which at best has a 5 to 10 per cent five-year survival rate. I think the refusal of this patient for surgery would be more charitable since they frequently will live for long periods of time as a complete pulmonary invalid.

I did not discuss pulmonary function study techniques today because the time available is too short. Average studies can be done in the physician's office, and anyone interested in the techniques can learn them with a little practice and study.

Thank you.

Dr. Beatty: Thank you, Dr. Mayock.

Dr. Beatty: Now I would like to ask Dr. Foltz to discuss, "Sensitivity Tests to Antibiotics in Clinical Practice."

Dr. Elwood L. Foltz: Dr. Mayock has just described the reasons for using objective tests in the measurement of pulmonary

function. We are all acquainted with the fact that sensitivity tests are supposed to give us objective information as to how best to treat respiratory infections, or infections anywhere else in the body. This has been an attractive approach to the problem of managing chemotherapy or antibiotics, but I think we have experienced a keen disappointment in the failure of laboratory tests to agree with the clinical results. I should like to point out some of the reasons for this and the inadequacy of certain sensitivity tests as they are performed at the present time.

The role of the sensitivity test at best is only qualitative. It can only begin to tell you what is the drug of choice or what drugs might be used to advantage. It does not guarantee a successful outcome so far as the treatment of disease is concerned. The physician must be careful not to get into the habit of prescribing drugs and disregarding what he has in the way of bacteriology.

The common method of performing sensitivity tests in most hospitals is known as the disc method in which either tablets or paper pellets are impregnated with antibiotics and placed on an agar plate in which a strain of the particular affected organism has been spread by usual bacteriologic techniques. By incubating this plate with various antibiotic discs one gets inhibition or intensification of growth. What is wrong with this sensitivity disc method? One is limited to concentrations and drugs which can be kept in a relatively dry state on the disc or tablet. Some discs are prepared over a long period of time, or stored so that at the time of performance of the test the concentration may be far from the stated potency. Also, there is a great variation among manufacturers. We have found as much as 40 to 100 per cent variation in the stated content of some of these discs. This has been such a problem that in Canada the process of disc manufacture has come under government control, and during the past summer it was scrutinized by our own Food and Drug Administration in Washington. There is some hope of trying to get a standardized technique of producing these discs or pellets.

Also, in order to have antimicrobial activity as the result of placing these discs on the agar, there has to be dissolution of the antibiotic and dispersion or distribution of that antibiotic over the surface of the agar plate. The amount of diffusion will vary depending on the wetness of the agar, the compressibility of the tablet or how quickly this material can be put into solution.

Much confusion arises as to how much inhibition there must be before one can say that the drug is effective. We do not like this method, and those who are enchanted by its ease of performance and the rapidity with which the test can be done have tried to overcome some of the shortcomings by using filter paper discs which are freshly impregnated at the time of the test with a water or saline solution containing the antibiotic. This gets around part of the problem so far as density of the disc material, but we are still confronted with the problem of interpreting a zone size indicating whether this particular antibiotic is effective or not.

The best method available at present is known as a two-fold tube dilution technique which starts out with a relatively high concentration of the antibiotic. By diluting it down, half, as you progress down the series of tubes, you get varying concentrations. Let us assume, for example, that we start out with tetracycline with a concentration of 50 micrograms per ml. We would have 15, 12½, 6.25 and so on down until we had the final of a ten-tube series containing a fraction of a microgram per ml. We inoculate this entire series of tubes with the same number of organisms, and find that turbidity after 16 to 24 hours of growth will indicate the concentrations at which this particular organism can grow in spite of the presence of the antibiotic. We would notice that there is a little growth in one particular tube but another appears clear. That would be the concentration then at which we would hope to effectively control the infection with this particular organism.

As for some of the techniques, a compromise in the whole situation is known as

the pour plate method, in which the antibiotic is incorporated directly into the blood agar. One takes a loop full of a culture media with the organism and streaks it on the plate and watches after incubation for inhibition. Sometime, on a control plate with a control organism, you will notice that there are some staphylococci and mucoid colonies that are characteristic of Gram negative infections. On exposure to penicillin you will notice that the three staphylococci are not inhibited by this particular concentration. There is partial inhibition, but we would still call this resistant because many colonies are growing. An absence of growth would suggest that this particular organism is inhibited. There is apparently some inhibition of a sensitive proteus.

The difficulty with this method is that it is more time-consuming. Also, we have no control over the number of organisms that we plate out on each streak. Furthermore, there are variations in antibiotic sensitivity because these have to be prepared fresh. They cannot be kept more than three or four days under ideal refrigeration conditions. On the other hand, so far as we are concerned, and I think most centers agree, this affords us with the most reliable method for doing fairly large numbers of sensitivity tests.

Now, what are some of the results that you can get from such a test?

We have to choose a level that is attainable in the body. We tested the adsorption of tetracycline, given five-tenth of a gram every six hours to normal male medical students at our university a few years ago. After 48 hours we achieved approximately a level of five micrograms per ml. in the serum of tetracycline. Now, if one tests for sensitivity it should be in relationship to the blood levels because the body fluids as a whole, with the exception of urine, have no ability to concentrate this drug. I should include bile in this, but none of these fluids has the ability to concentrate the antibiotic above that which is found in the serum. Therefore you can expect tissue levels to be lower than this.

It makes little sense then to test tetracyclines at 10 or 25 micrograms per ml. when this concentration is relatively unattainable with the average methods of dosage. So one has to choose a concentration at which to test antibiotics in relation to the pharmacologic properties of each of them, and what levels can be obtained in the blood.

Suppose we are dealing with the two so-called bactericidal agents, penicillin and streptomycin, one unit of which can easily be obtained by oral therapy and the average injection of between 300,000 and 600,000 of procaine penicillin. Five units requires vigorous intramuscular therapy, about 300,000 units every three to four hours around the clock.

We have found that micrococcus pyogenes are not very sensitive to penicillin; about 25 to 30 per cent are sensitive at these particular concentrations. With streptomycin the results are a little better. Taking the Gram negative organisms as a whole there is little activity against these organisms by penicillin. On the other hand, streptomycin is effective against *Aerobacter*, of which Friedlander's bacillus is a first cousin. In fact, we now consider *Aerobacter* and Friedlander's together. We then can say that about 20 per cent of the Friedlander's *Aerobacter* group will respond to streptomycin at this concentration. 55 per cent of common coli should respond to streptomycin. *Proteus* does not do too well; the various *proteus* species gave only about 17 per cent response. *Pseudomonas* is generally resistant to streptomycin, and *alcaligenes* has a relatively low order of sensitivity.

Chloramphenicol is quite effective against the micrococcus pyogenes. I do not want to leave with you the impression we still have 95 per cent sensitivity in our hospitals. The figures are now down to 75 per cent as a result of the invasion of epidemic strain in the past year and a half. The figures for the tetracyclines have fallen off more, down to less than 50 per cent at the present time.

Proteus, largely responsive to Chloramphenicol and *Pseudomonas* failing to re-

spond to most of these broad spectrums, limits one primarily to the use of polymyxin or to special combinations to take care of these particular organisms.

Alcaligenes responds fairly well to chloramphenicol and slightly less well to the tetracyclines.

This in brief is the sort of data one should have because I feel that chemotherapy should be instituted immediately upon knowing that you are dealing with a bacterial infection. Perhaps the most important piece of evidence to obtain initially is a smear or some information as to the nature of the organism with which you are dealing. If you get a sputum smear, one can not, on the basis of finding a pneumococcus, a streptococcus, or hemophilus organisms, completely ignore the sensitivity tests because one knows right from the start that most of these organisms are quite susceptible to penicillin or chloramphenicol or a combination of these two. He can forget about the sensitivity tests. Sensitivity tests should be reserved for those organisms particularly in pulmonary infection where we suspect a gram-negative organism or where the staphylococcus is our offending organism.

One should not depend entirely on an inferior method such as the disc method for the selection of drugs, but should choose the drug that is most likely to give a response and treat with full doses as rapidly as possible. The evidence obtained from sensitivity methods should back you up in your initial choice of the drug. Anyone who waits for sensitivity results is deluding himself that he will be in a better position to select a drug adequately for the management of infections.

Therefore, I would come back to the basic problem; that in the management of pulmonary infections, the common varieties of pneumococci, streptococci, and hemophilus are so susceptible to the antibiotics that it is not necessary to do the sensitivity tests. Secondly, when you do have an organism such as a gram-negative rod or the staphylococcus, one should use the drugs that statistically in large collected series, or knowing your own local problem ex-

tremely well, are most likely to give adequate results and use sensitivity tests as a qualitative guide in backing up your decision so far as antibiotics or any other antimicrobial is concerned.

I have completely ignored the newer antibiotics, or some of the less commonly used ones. Certainly erythromycin and novobiocin can be mentioned for management of gram infection. More recently kannomycin, bacitracin and polymyxin have established places for themselves in the management of gram-negative infections or some of the more resistant gram-positive infections. But these are special cases. I think what we are concerned with as practicing physicians is a basic approach to the commonly used antibiotics, and I hope I have shown you why the sensitivity tests do not necessarily always agree with your clinical results.

Dr. Beatty: I am sure you have some interesting questions to direct to the panel. The floor is open.

Dr. O'Brien: I would like to ask Dr. Eisman about the chemotherapeutic agents used for carcinoma of the lung, as to whether he feels that they have prolonged the lives of individuals with inoperable carcinoma and whether the hospitalization and the cost to the patient for that period of time is better than using morphine at home, or some less expensive agent for a lesion that we know is going to end fatally for the patient, and whether there is some proof that the chemotherapeutic agents actually help in the survival and the general clinical evaluation of the patient.

Dr. Eisman: Your point is well taken, Doctor. It probably is true that so far as duration of survival alone is concerned, there is not much significant increase at the present time. However, when the agent is effective, the time left the patient to be alive is certainly much more tolerable and useful. The other part of the question has to do with cost and hospitalization. Most patients we are treating on an out-patient basis. They have been coming to the clinic at weekly intervals for an injection.

A carcinoma of the lung was treated with nitrogen mustard after the first of April

and there was a dramatic response made about four weeks later. This remission was the expected clinical improvement, as you would imagine in cough and dyspnea. This diagnosis had been made on a superclavicular lymphnode and was bronchogenic carcinoma. The improvement lasted about 17 weeks, or four months. The four months that he was free of symptoms after this course of therapy was a very comfortable period for him.

I suspect that the duration of life itself hasn't been significantly increased, although it has been increased a little. But many of these patients are being treated on an out-patient basis, and hospitalization is not used except when absolutely necessary.

Dr. Mayock: I think we ought to point out that the study that Dr. Eisman is supervising so far as the University of Pennsylvania is concerned on this adjuvant program will solve this problem for us probably in two years, according to our statisticians, and I think everybody connected with the chest has often wondered whether the gain was worth the gamble. I think we will have an answer not only in surgery but also, when you consider that these people are basically carcinoma patients, we will be able to tell whether the control versus the treated series was actually aided, which we are all anxious to know.

Dr. Beatty: Are there any other questions?

Dr. Frelich: I wonder if Dr. Eisman would have any comments on how to avoid carcinoma of the lung, or a prophylactic approach to it, in relation to smoking.

Dr. Eisman: I shouldn't get into it while I am smoking here. *Res ipsa loquitur*. I suspect that much of the data is real and should be accepted since, as you well know, there is a good deal of investigation going on as to whether it is the tobacco at all, whether it has to do with the arsenic content of the soil in which the tobacco grows, whether it has to do with the composition of the cigarette paper, and so forth and so on.

I suspect that in essence if we cut out smoking we would certainly reduce the incidence of carcinoma of the lung. By the

same token there must be other factors, too. For example I think in the pitchblende miners in Czechoslovakia, the incidence of carcinoma of the lung runs 80 per cent of the people who have worked there for a period of time. This has nothing to do with whether they smoke or not. So that there are other exogenous agents besides tobacco.

I don't think one can honestly say that long, continued use of cigarettes has nothing to do with carcinoma of the lung. I just can't stop it myself.

Dr. Beatty: Are there any other questions?

Dr. Frelich: I wonder if Dr. Mayock would give us a little better rundown on what type of pulmonary function studies he thinks would be advisable to have in the office for example.

Dr. Mayock: Yes, I would be glad to.

There are many institutions in America that do bilateral pulmonary surgery and have no established pulmonary function unit. These are largely tuberculosis hospitals. The survival rate and production of pulmonary invalids is no less than any other institutions in the country. It runs about the same. This I think is a tribute to what can be done with very simple pulmonary function studies. In evaluating pulmonary function studies, however, one must take an overall approach to the problem, the history of the patient, cough, dyspnea, especially dyspnea is extremely important; the physical evidences of pulmonary disease, areas of fine scattered rales, especially after the pertussive maneuver, are important in evaluating exactly what the patient's overall lung picture is. Often following tuberculosis the disease will clear, but one will be left with an area of rales which is the result of damage done to the lung. This would be some hazard, especially if it were on the side that the patient was supposed to survive on after the other lung has been removed.

The history and physical examination are first and foremost in the evaluation of the patient. The next important step, is fluoroscopy of the chest, done by someone

trained in dynamic fluoroscopy. As you know, we don't use the fluoroscope for inspection of the chest basically, if we are using it correctly today, in view of the radiation hazard. I think it is being over-emphasized in relation to its importance, but it still is important, and so long as we don't have to use radiation, I feel that we shouldn't. But a dynamic fluoroscopy of the chest—and by that I mean a careful examination as to the mechanics of the chest—one can, by noting the motion of the rib cage as opposed to the diaphragm, detect exactly how much function is present. The vital capacity depends on two things: One is the elevation of the chest cage and the other is the dropping down of the diaphragm. And you have to see that under the fluoroscope if it is there. If it is not there, the person isn't ventilating. So you can estimate how much ventilation is occurring on each side almost as well as with bronchspirometry.

The detection of a paralyzed diaphragm by the sniffing test is helpful. If one has a patient take a maximum inspiration and a fast expiration, he can detect airway obstruction, shifting of mediastinum, localizing the areas of trapping. If you have a patient blow out rapidly during this period, you have done a one-and-three-second vital capacity because they can only blow out as fast as the thoracic cage can move. So, the fluoroscopy I would place second.

Simply done is the vital capacity, confirming what you have established with your hands, stethoscope and fluoroscope. They should all fit together. If they don't, there is something wrong with either the patient's cooperation or your estimation and you should recheck yourself.

The one-and-three-second vital capacity will detect the actual patency of the airways. One normally blows out 81 per cent of one's breath in one second and 100 per cent in three seconds. This can be visible and audible by all types of methods. You can see how fast the airway is able to empty.

If you have done those studies the main problem left that you will not have an-

swered is the distribution of gas to areas which are receiving blood that they can exchange with. This usually goes with the airway obstruction, however, and it is unusual to have an area of lung which is not profused and is ventilated, and vice versa. They usually both go down together. The diffusion problems are ordinarily recognizable on the simple PA of the chest. If there is something blocking between the capillary and the alveoli, under ordinary circumstances it is visible on the x-ray as a diffuse process or linear strands.

Diffusion studies in the office are not necessary. If you think, "does this patient have a diffusion problem?" and go over the situation so far as the modalities that we have talked about, you almost always can determine it and make a good guess as to whether or not they are present.

The maximum breathing capacity I think is important and easy to do in the office by some of the newer techniques because it gives you an overall estimation of the patient's ability to perform. It is about like running the mile. They have a very good maximum breathing capacity, it takes many things into account that one would have to test for individually, and if it is down it indicates there is something wrong with the previous evaluation.

Going beyond that, I think a CO₂ saturation, content, which is available in every hospital is an easy thing to do, hematocrit to determine whether or not polycythemia is present with enough oxygen saturation.

If you have these as a base line, going on to arterial gas studies involves a complicated team. If you want to determine diffusion compliance, airway resistance by the newer body plethysmographic studies, you get into a more advanced situation where you need a good pulmonary function laboratory.

I would like to emphasize that many institutions do bilateral surgery and evaluate the lungs by these simple methods and are able to do good surgery and have a high survival rate.

Dr. Young: Would you emphasize that fluoroscopy isn't a cursory procedure but requires proper acclimation of the eyes and time spent on it?

Dr. Mayock: Yes, indeed. I think without acclimation of the eyes in terms of adaptation one is not only wasting his time, but it is difficult to get a satisfactory examination. If the test is worthwhile, if the exposure is worthwhile in terms of the test, it should be done properly.

Dr. Beatty: I think because of the lack of further time we will have to terminate the question period. Thank you, gentlemen of the panel, for this very interesting discussion, and we appreciate your coming down from Philadelphia to help us out.

President Baker: I want to thank you Dr. Beatty, and you three gentlemen for this very interesting discussion. We appreciate it.

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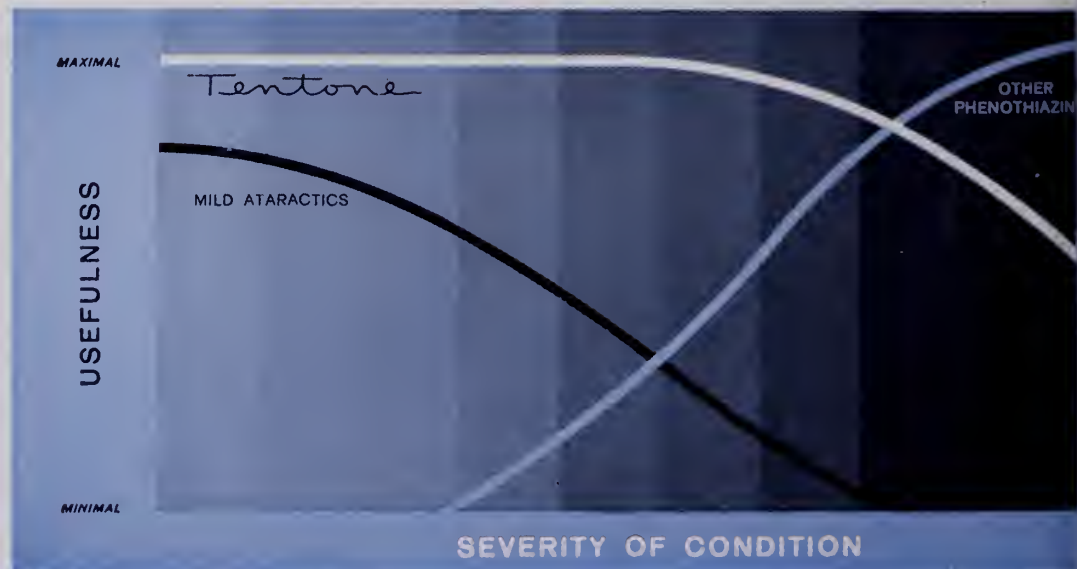


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NORTHERN EUROPEAN MEDICINE AND INSURANCE

CHARLES T. PACE, M.D.

No American fails to be impressed by a trip to Europe. The museums, geography, history, and famous names and places are powerful stimuli. What excites the greatest interest in the tourist, though, is comparing differences between our young American culture and its older predecessor.

More than 6,000 years ago a race of people called Nordics, speaking a Teutonic language, appeared in Germany. Later on they migrated into Holland, England, Denmark, Norway, and Sweden, and after some fantastic and violent adventures have populated the United States, Canada, Australia, New Zealand, and South Africa. They have developed the highest culture in history and have set the pace, right or wrong, for what we call modern civilization.

Let us compare two branches of the family, the American and European.

The European branch is a mature society; the American a young one. Europeans are more civilized, more settled, more sophisticated, and better educated than we. This is true in all social levels; for example, illiteracy is non-existent in Holland and Scandinavia. They are better disciplined—child and adult—than we; more formal, more inhibited, less impulsive, and less friendly than we in the United States.

They spend their time in different pursuits; generally ours are passive, theirs active. We look at television and movies; they read. Every village in Northern Europe has a good bookstore. We like spectator sports; they like participation sports. All ages and kinds of people engage in outdoor exercise—walking, hiking, camping, bicycling, skating, and skiing.

Another impression one brings from Europe is that our greater material wealth is of no importance in assessing individual worthiness and national character. In fact,

it may be a delusion serving to corrupt rather than strengthen.

The most striking difference between Northern Europe and North America is economic. The United States, in spite of accelerating federal encroachment, is still a relatively free country. Our economy is more flexible, government control is not nearly so rigid, and we produce more of everything for everybody. The paradox is that we are moving toward the state ownership system—a system which produces less.

This fact holds true for medicine and insurance as it does for the remainder of our economy. In examining Europe we shall see where this process has run full course. Government administration of medical care and insurance is established in the countries of Northern Europe. Let us look at them one at a time.

GREAT BRITAIN

The capacity to suffer without complaint, to accept adversity calmly, is the hallmark of the British. It characterized their conduct during the War, and again, after the War when a socialist government appropriated and disturbed many segments of the economy. Medicine was one of these, and that this program has functioned as well as it has is more a tribute to the British doctors than to the efficiency of the system.

Prior to 1948 medical care was run on about the same basis as it is here. People had private doctors who charged a fee only if the patient was able to pay. Hospitals were run in the same manner and administered by physicians who charged nothing for their services. Hospitals without internes were staffed by local physicians on a rotating call service for emergencies and for patients who had no private doctor. Parliament voted for "free" medicine and, although the doctors were almost unani-

mously opposed, there was no attempt at revolt or strike; in fact, they made every effort to co-operate. Without the enormous financial subsidy of the United States this program would never have been installed. It cost four times what its socialist proponents said it would in annual cost, and the expense has risen each year so that the health, welfare, and social insurance schemes in Great Britain now occupy 20 per cent of the annual budget.

This program includes doctor, hospital, mid-wife (many in Europe; few in United States) nursing, dentistry, spectacles, drugs, ambulance service, and home nursing care.

The program is called "insurance." The employed pay 1.50 per week, the employer contributes 1.20 per week for a total of 2.70. (Remember that in Britain salaries are 50-75 per cent lower than in the U. S.). This sum pays only a fraction of the total cost: 4/5 of the cost comes from taxes (mostly income tax). The beneficiary pays only 12 per cent of the cost of his own care. So, despite its name, it is not insurance.

Each citizen in Britain has a card which he presents to a doctor of his choice, provided the doctor wants him and does not have more than 3500 patients on his panel. The doctor is paid 4.00 per year for each patient, whether he sees him daily or never. This doctor does not use the hospital, but sends patients to a doctor whose full-time work is in the hospital and who is paid a yearly salary. The patient cannot consult this doctor or go to hospital unless sent, except on his own responsibility.

The advantage of the program is quickly stated, because there is only one. But that one is enough to guarantee that this program will be permanent: The patient does not have to pay for being sick, a responsibility none wants to assume.

The disadvantages are more numerous; the high cost is the most significant. The cost is infinite and uncontrollable! Administrative and hospital expenses are enormous. Hospitals are over-utilized, crowded and out-moded. For 14 years no new hos-

pitals have been built. The waiting list for elective admission to hospital is in some cases two years. This has caused a sort of "black market" in which a patient wanting a hernia repaired, for example, will pay the cost so that it can be done immediately in a private clinic rather than wait for government facilities. This is not illegal but it is embarrassing to the government.

Personal care by the physician and liaison between the doctors have deteriorated. The doctor now has no incentive to give comprehensive care and uses hospitals far too much. Doctors are emigrating from Britain at every opportunity.

The general practitioner is not satisfied, and his professional and financial status is poor. The way the program is organized puts a premium on inferior medical care. There is a shortage of physicians. There is no way for the good doctor to make a better income than the mediocre one. There is a decline in interest in government medicine on part of patients. Purchase of voluntary health insurance is rising rapidly in Britain.

The major cost of this vast womb-to-tomb insurance program is hidden in taxes. It is becoming an insupportable burden on the British economy. But no politician would dare suggest a change.

GERMANY

All over Europe they are telling the story of the Russian sputnik which meets the American satellite in outer space and says, "There's nobody out here but you and me, we can go ahead and talk in our native German." The world knows that German minds built both those machines and that Germany is the peer of any nation in science. In addition to their scientific ability, the Germans have another quality: They are the best-disciplined people in the world. All the countries they occupied during the war confirm that fact and agree that their soldiers were much better disciplined than ours. No rape or looting for the Germans.

Germany was the worst-destroyed country in Europe and is now the strongest. It has the longest work week in Europe. The

number of doctors produced in Hitler's reign was three times the normal rate. Since the time of Chancellor Bismark, German medicine has been socialized.

Germany is now two separate nations.

EAST GERMANY represents the ultimate in socialism. The deplorable status of health care in East Germany is illustrated by the fact that when I was there last fall there was not a single pediatrician in the city of Leipsig. Leipsig is one of the oldest university and cultural centers in the world. It is a town of 600,000 people. Doctors have emigrated to West Germany, as have all professional groups.

Medical care is not prospering. In view of the Germanic qualities of discipline and scientific achievement, and of the adequate supply of doctors, what else can be blamed but the intensely socialized system? Competing political parties have granted one increase after another in social welfare benefits, which, despite incredibly high taxes, are not covered by income. Doctors are paid according to a system that encourages inferior medical practice. Mortality of the newborn and maternal mortality are the worst in the western world. All services are over-utilized as everybody wants "something for nothing," hospitals are crowded and bankrupt. Doctors and patients are dissatisfied, but the public wants no reform that does not include the "free" principle.

NETHERLANDS

Holland was once a pastoral meadow, a great colonial power, a center of culture, and a haven of religious freedom. It is still intensely agricultural, but is now also intensely industrial—containing the largest oil and electronic industries in Europe. It has lost its colonies, the last one to go being Indonesia—the world's richest area and exploited by the Dutch for 300 years. The many Puritans and Jews who live there have made Holland a sober, conscientious, and cultivated nation.

The Dutch fought the Germans bitterly in World War II and lost three times as many dead as the United States. The constant struggle against the sea has given a serious face to the national character.

It is the longest-lived country in the world, with lowest death rate and best maternal and new born health records. Most deliveries are done in the home, 40 per cent by midwives.

Half the population is insured by a compulsory program, 2 per cent of employee's salary paid by himself and another 2 per cent contributed by employer. Most of the remainder of the population belongs to private insurance groups. The distinguishing feature of Dutch medicine is that control of all phases of medical care, even public health and government subsidized activity, is largely in private hands.

We doctors in America get poorer results than do the Dutch midwives. Reason: nature of the people. They are scrupulously clean, conscientious, come in for check-ups as ordered. The Dutch have no problem with primitive people as in United States and Southern Europe. It is not economics but character that produces good medicine in the Netherlands. Holland is a poor country.

SCANDINAVIA

If a world-wide popularity contest was held today the winners unquestionably would be the Scandinavians. A cynic might say it is because Scandinavia is too small for jealousy; too remote for antagonism. That is true, but the real reason is that the inhabitants of Denmark, Norway, and Sweden are attractive. Other traits they share are a related history of struggle in a cold climate, and the oldest socialist governments in the western world. They do not understand our system of capitalism, but they love our country. There are more Swedes in Chicago than in Stockholm; more Norwegians in New York than Oslo; and there is Danish blood in the veins of most people claiming English descent.

In contrast to the puritanical Dutch, the Scandinavians have a religious attitude that can only be compared to the ancient Greeks. The tax-supported church gets little from the people in the way of tithe or time. While professing the same creed as we do, they do not turn out in great numbers for church on Sunday. So far as

their practice of Christian ethics is concerned, they are the equal of any of us. Their sexual mores are more liberal, particularly in Sweden.

One will search Scandinavia in vain for a low class—a condition attributed by the citizens to their social system and by me to the nature of the people. Call it what you will, heredity or environment, but this is a hardy breed. Why then are they socialist? I can only suggest that they have had a highly-organized society for a thousand years, whether in Viking crews, fishing fleets or merchant navies. Until recently they have been poor; and they banded together a hundred years ago in voluntary insurance societies against disease, or failure to return from a sea voyage, or other hazards faced in a harsh climate and a poor land. From this early association for "social security" the step to government management has been a short one.

These countries are socialist to the core, and have been for so long that their socialist governments are actually cautious and responsible, and have even undone some of their socialism on occasion in the interest of efficiency.

Scandinavia is the home of the welfare state and doing a good job of it. Why does it work so well? There are several reasons: small size, low population density, a highly literate, industrious and civilized people, a homogeneous national origin, no racial, religious or ethnic division. This enables them to discipline the system. They don't take advantage of it. There are no pressure groups to ask for special favors: anyone defrauding the operation is severely punished. The people don't ask more of the program than they put in it, and they accept its limitations. They are satisfied to have less than the restless American. Their social system is unique in that the people contribute a large portion of the cost usually through direct payment at the time of treatment in addition to insurance (Norway and Sweden). This is in distinction to Great Britain and Germany, and probably to United States if socialism comes here. In other words, Scandinavia is actively on

a rather sound basis. It is not all good though.

What are the limitations of the Scandinavian Socialist System? Highest taxes in free world; less productivity, less freedom of capital, less opportunity, less reward for the hard-working, the ambitious and the bright, a restricted economy, a shortage of capital. Example: housing shortage all over Scandinavia, even in rich Sweden. Nobody in Scandinavia has to work (the government will support him) but most of them *do* work. Three weeks mandatory vacation with pay is law. It is impossible for the average man to build up any savings. Taxes are incredibly high. One doesn't "get ahead." For what it is worth, I suggest an interesting corollary of this condition. Although America is a richer country and everybody has more, there is possibly more anxiety (so called insecurity) here than in Scandinavia. While I feel that one cause for this lack of work satisfaction a contributing cause, is that in America everybody wants to "get ahead." In Scandinavia a man cannot "get ahead." There's no where to go. So, he doesn't worry about it. The Jensens can't get ahead of the Olesens, so the Olesens don't worry about getting ahead of them. Instead, the Scandinavian reads, has a leisurly chat, goes hiking or skiing and lets simple pursuits fill his days with contentment.

One other point: They all work; there are no loafers. But the pace is not as fast as here. They don't have as many people doing nothing as we, nor do they have the highly-charged economy that produces, at the opposite pole, the hard-working business man characteristic of America.

NORWAY

In a world ever becoming more modern and effete, more urban and crowded, Norway provides a welcome escape. Norge (pronounced Norr-guh) is a thousand-mile strip of mountains, split by long fingers of the ocean, and inhabited by a people combining the attributes of the mountaineer and the seaman. Their greatest asset is space: a scant 3½ million of them enjoy the lowest population density in Europe, in a

country the size of California, but with one-fourth the population. It is the most sea-going nation in the world and its towns look like the United States of fifty years ago. They are the most out-door people in the Northern hemisphere.

Add to those features a severe climate, saved from barrenness only by the blandishments of the Gulf Stream, and a heritage of Vikings, and you can imagine a distinctive race.

Isn't it odd that these self-reliant, and individualistic people should produce the most socialist state outside the Iron Curtain? But, consider that only 4 per cent of the land is arable, that mountains tilt up the land, pushing the men to sea to earn a hard living, and that this united people have inherited a tradition of group action in a thousand years of sailing, and then socialism seems more logical.

The poverty they have known until recently must also be considered. Norway is still a poor country, but of free men. They fought an epic struggle against the Germans.

About 1850 voluntary insurance groups were formed; they grew and coalesced. In 1910 compulsory insurance for low income families became law. The income limit has been raised gradually and since 1956 compulsory insurance has included all people living in Norway. If you go to Norway and fall sick you will be cared for at no cost.

The Norwegian is insured against everything, but not for the full amount of many charges. He must pay some of the cost depending on the nature of the service. After the first two visits to the doctor, $\frac{3}{4}$ of the cost of medical care is paid by the insurance program. Accidents and illnesses associated with work (fishing, sailing, timber) are covered entirely by the state as are certain long term diseases such as tuberculosis and mental disease.

Hospital care is free. Private hospital care costs extra. The cost of drugs is borne mostly by the patient. Maternity care is covered. The midwife or doctor charges usual fee and $\frac{2}{3}$ of cost is remitted by

the State. Half the deliveries are by midwives.

Wage-earning beneficiaries are also paid cash sickness allowance for any illness lasting more than three days. If death ensues a funeral allowance is paid.

Cost of the scheme:

1. Premiums pay half of cost. They range from 15 cents a week paid by students to 75 cents a week paid by over half of the working population. Premium is deducted from pay of wage earners; others, including unemployed, are required by law to make their own payments weekly.

2. 30 per cent paid by employers.

3. Remaining 20 per cent—divided between national and county governments. So only 20 per cent is paid by general taxes.

The Norwegian doctor is paid on a fee-for-service basis according to a fixed schedule, a system different from England (capitation) and Germany (number of sick cases he handles). One quarter of cost is paid by patient at time of illness.

The result of this womb-to-tomb program is pleasing to patients. Taxes are fantastic; highest in the free world. No one builds an estate. Except for the shipping families there is no wealth in Norway. But, living seems to be as much fun there as it can possibly be.

The scenery is unsurpassed.

DENMARK (*Spelled Danmark locally*)

An agricultural land jutting from Germany into the Baltic Sea, and separated from Sweden by four miles of water. The best-liked people in Europe by the Europeans, they are gregarious, consume more beer than anywhere in world, sophisticated, urbane. They travel widely and settle everywhere and are very quick to adjust to any people or any custom. Copenhagen is an international city—tourists from everywhere. Oslo and Stockholm are not.

Taxes are confiscatory and although there is nothing left after paying for it, they like their welfare state.

Pre-payment of medical care began a hundred years ago as voluntary societies for

sickness benefits. The program was and is administered by private companies, but now there is government subsidy. Administration costs of private companies are much less than that of government-administered portions. Insurance is not compulsory (in contrast to Norway).

5 per cent of population—classified as indigent, Government pays.

85 per cent of population—pay a monthly sum into insurance Company up to 16,000 K (2500.00).

All pay same sum. This covers 2/3 of their medical cost. 1/3 comes from taxes.

10 per cent pay their own way. May join an all private program if they desire. (above 16,000 K).

Unlike Norway and Sweden, the Danish patient pays none of the cost of his visit. The Norwegians and Swedes have patient-pay, 25 per cent of the cost to 100 per cent (in some cases, such as unwarranted night calls). There is friendly argument across the Baltic about the virtues of each method.

In Denmark patients cannot change doctors unless referred. Night calls are done on rotation service of younger doctors. They work strictly by appointment, do not answer telephone, and walk out promptly at 5:00. No emergencies are answered except by rotating call service. They do not work as hard as doctors in United States.

Doctors are paid directly by State on a fee-for-service basis.

Hospital doctors are paid by salary; 2-3 hours of private practice per week. Hospital admission is free; paid by tax income. The system is generally satisfactory to patient and doctor; like the others, it suffers from rigidity.

SWEDEN (*They call it "Sverige"*)

If the English are the most mixed-blooded of the Nordics, the Swedes are the purest.

The Swedish Saxons made fewer Viking excursions than their neighbors, and were protected by mountains and sea from invasion. Perhaps their remoteness explains the

opinion of their Danish and Norwegian cousins that the Swedes are somewhat cold, distant, selfish, and unfriendly. This reputation was not improved by the events of World War II in which the Swedes got rich by the simple expedient of staying out, and allowed the German troops to pass through by train to subdue the Norwegians.

Swedish women are best-looking in world.

Sweden's chief difference from Norway and Denmark is that Sweden is rich. A hundred years ago Sweden was as poor as Norway and Denmark, and people migrated in great numbers to United States. But its hydroelectric power, iron ore and steel mills, automobile factories, and freedom from war have changed that picture. With Switzerland and the United States, it is one of three richest countries in world. Money is making the Swedes, like the Americans, effete, decadent, and soft. Sweden has a strong shipping industry with Norwegians and Danes outnumbering Swedes in crews because of higher pay than they can get at home.

The socialistic state is in charge in Sweden and evolved from private associations just as in Norway and Denmark.

The economy is heavily controlled and restricted. There is a severe housing shortage. The ambitious prefer the United States system and there is a growing free-enterprise party. Generally, however, economy is like other Scandinavian countries except richer. The medical care system is like Norway in that patient pays part of cost. Medical care is good, but not as convenient for patient as here. The patient does as he is told, since he has little alternative.

CONCLUSIONS

The chief difference between Europe and America is economic. The world-wide social revolution, in which capital and power are passed from the individual to the government, has progressed further in Europe. Medical care and insurance are one part of the general situation involving the total existence of a nation and its people.

The popularity of these social welfare programs is due to the belief that they are

free, since payment is always indirect. The average man likes having the responsibility for his welfare in other hands than his own. The price he pays is measured in confiscatory taxes, inability to accumulate savings, reduced opportunity, strong controls, and restricted economic freedom, lower productivity, and the danger of the tyranny that comes so easily when the government has all the money and all the power.

Aside from these auxiliary liabilities, I believe the system of government medicine is itself inferior and that American-free enterprise medicine is better.

1. European medicine is less productive and less efficient.

2. The United States leads in medical research.

3. European doctors who have studied here are filled with admiration for our system.

4. There is more medical care available in the United States.

5. Federal medicine cannot be controlled in a democratic country. Costs will become ruinous, or Government too strong.

6. Abuse of the system is unavoidable and uncontrollable.

7. No one body should be allowed to acquire a monopoly in medical care. This places the doctor at the mercy of forces which may have no interest in, or sympathy for the personal and confidential relationship that ought to exist between doctor and patient.

The only alternative to federal control in the United States is preservation of voluntary pre-payment plans. Otherwise another segment of our economy will slip into government ownership.

This is an awesome responsibility for the insurance industry.

OUR MUSCLES

KENNETH M. CORRIN, M.D.*

Good muscles are important for the maintenance of health. They are the largest functional organ in the body and "complete almost one half of the weight of the human body"—Fulton's Physiology. They are found in every organ and tissue, carried there in blood vessel walls. Muscles are of great importance in the oxygen-glucose metabolism and the blood vascular circulation of the body, especially in pumping venous blood back to the heart. Physical and mental health, personality, organ function and entire well-being depend largely on healthy muscles. One cannot have soft flabby body muscles and expect to have a good heart muscle, good blood vessel muscles or good stomach muscles. The state of muscle tone is especially important in the sick and in the aged.

Some examples of the harm of muscle inactivity are the following:

In fattening livestock, confining to prevent exercising plus over-feeding, results in increased fat deposits in and around the muscles as seen in the marbling and fat layers in prime beef.

Monday-morning sickness in horses was a common condition in big draft animals formerly used in the brewery trade. When these large heavily muscled, heavily fed, active horses were left tied in their stalls over long week-ends, they often developed paralysis of the hind quarters with blood in the urine due to impaired carbohydrate metabolism. Placed in a large corral where they could exercise freely, this condition was avoided.

The Monday morning malaise which many men and women experience is apparently similar, resulting from over-eating, often with over-indulgence in alcohol and

tobacco, in the absence of the usual daily exercise obtained at work.

Impaired carbohydrate metabolism of muscles is a common cause for many men and women feeling toxic, sluggish and half sick without knowing what is wrong. When more food is eaten than is necessary, with a deficiency of muscle activity and oxygenation, the excess glucose circulates in the blood stream impairing the smooth functioning of every organ in the body, eventually to be stored as fat. The onset of this subacute toxic state is often so gradual and insidious that it is overlooked by both doctor and patient.

Sudden heart failure, often in men in their fifties, is relatively common today. Many of these patients, apparently in good health, fail to show definite thrombosis or other pathology in coronary arteries sufficient to cause death. A preceding heavy meal, slight exertion, or a chronic fatigue state are common in such histories. One cannot but wonder what part lack of exercise, poor muscle tone including the heart muscle, plus chronic fatigue play in such deaths. Some of these deaths are probably preventable by paying a little more attention to the general health, maintaining good muscle tone by proper exercise and the avoidance of chronic fatigue.

The retired business man who does not have a definite exercise program but sits about most of the day frequently develops muscle pains, rheumatoid arthritis, indigestion, constipation and general malaise. If this condition is not corrected he may not live long. When such a person eats less, takes regular exercise to keep his weight down to normal and keeps his mind active, he soon corrects the condition. The person confined to bed with a prolonged illness such as heart disease, without passive motion, massage or exercise of any type, often

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arises to find himself so weak that he can hardly stand alone. This is not a question of equilibrium but of muscle weakness from disuse. Urologists have long known that body or leg casts, applied for long periods to prevent movement, tend to produce urinary calculi. The recumbent position for long periods also tends to favor thrombiformation.

How can the middle aged person keep the weight down, the muscles in good condition and all the organs functioning at their peak of efficiency? There are several basic principles which may be utilized when one begins to feel the need of special attention to this phase of health.

Diet of course, is important, not so much what is eaten as how much. Here the "platter method" usually obtains the best results. With the beginning of each meal the person should stop and think—"How much and what kind of food does my body need?" Only that amount should be put on the plate and eaten. Of course there should be no eating between meals or at bedtime, and a minimum of fats and carbohydrates is essential.

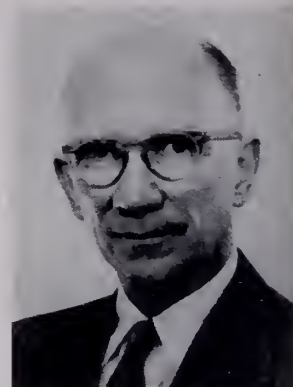
Daily exercise such as walking in the fresh air is important. Walking leisurely with the mind and body relaxed, free from tension, is probably the best all-around exercise for the average man or woman. Every opportunity should be taken to walk short distances rather than ride. Many benefit from a short walk before retiring. For the sedentary office worker, when practical, walking to and from work is a good rule. For the recuperating patient or the retired person, a 20 minute walk may be taken before breakfast and an hour again before the evening meal. A few vigorous calisthenic exercises in the morning with deep breathing are favored by others. Naval men, confined on shipboard for days at a time, keep their muscles in condition by walking about the deck for a half-hour daily, breathing deeply and flexing and relaxing all of the large muscle groups of the body under voluntary control. The retired person with plenty of time may combine daily sunbathing with resistant exercises, flexing and stretching and self massage. Body massage

by a professional, combined with ultraviolet ray therapy, may be taken regularly by those who can afford the time and money. The person confined to bed may systematically flex and extend, or raise and lower the extremities. The Sandow (vibratory) exercises, are ideal. This consists in raising an extremity, preferably while lying down, and flexing and extending in a series of short jerky movements, rather than the flexion or extension in one long sweeping movement. Massage with passive, resistant and vibratory movements should be an important part of the doctor's therapy for all patients confined to bed for more than two or three weeks, especially hospital cases.

Hobbies involving walking and other forms of muscular activity are helpful in maintaining muscle tone. A Turkish proverb says, "Dreaming goes afoot but who can think on horse-back." Horse back riding, hunting, fishing, tramping, geology, paleontology and botany are examples.

Systematic rest periods should alternate with work periods to keep muscles in good tone. Fatigue, the result of insufficient rest, often leads to nervous exhaustion with depression. The best preventive is mid-morning and mid-afternoon rest periods, or a rest period lying down after lunch. For the one who cannot rest after lunch a short rest before the evening meal is a good substitute. It is only when one is lying down, relaxed, that the heart muscle has an opportunity to rest. Evenings should not be filled with activities. To entertain friends, play cards, attend a dance, or the theatre is good rest for the mind but not for the heart muscle which must continue working full time. One should avoid keeping on the feet and going every minute of the day. Learn to relax and rest periodically. Living in a mechanical age produces sedentary habits which, for most city dwellers, makes planned exercise necessary for good health. Physicians, as a rule, should give more attention to the care of their patient's muscular systems, as well as their own. For good muscle tone, free from tension and fatigue, one should have eight hours of sleep, an hour of mid-day rest lying down, three regular well balanced meals daily and 24 hours of fresh air.

PRESIDENT'S PAGE



By the time this message can be published, the Medical Society of Delaware and the Delaware State Medical Journal will have moved to new offices in the Academy of Medicine Building. We hope that this will be a permanent home for our headquarters and for the Journal, which in the past forty years has been issued from the duPont Building, Citizens' Bank Building, North American Building, and 621 Delaware Avenue. The Journal plans to cover the new building in a dedication issued this fall, but we hope that many physicians will have visited it before then.

Delaware's Medicare contract was renewed this April in exercises of the authority granted the Council by the House of Delegates. The present Medicare contract expires April 30, 1960.

As this is written, House Bill 211 is expected to pass the General Assembly, creating a Delaware Citizens' Council on Aging. The purpose of the proposed Council is to focus the attention of all segments of society to the problems of the aged, study these problems, and plan accordingly. Medicine will, of course, be among the groups represented on the Council. The Medical Society's Committee on Aging has considered and endorsed the proposal: the Chairman, Dr. Clarence J. Prickett, has written Governor Boggs offering the Society's cooperation in the Council's work, in whatever way the Governor feels appropriate.

Bertholon-Rowland, Philadelphia insur-

ance agency, is now in its sixth year of underwriting a group accident and health plan for the members of the Medical Society of Delaware. We have recently received a summary of the first five years' experience from Bertholon-Rowland, and have written to each of the eighteen Delaware doctors who have received benefits under the plan, asking for an evaluation of the service the company has rendered. Our conclusion has been that Bertholon-Rowland has been administering our accident and health plan fairly and well. The company is preparing a follow-up solicitation for new members and for old members who wish to elect or extend coverage under this plan. While the Society does not recommend this policy over any existing county medical society policies, we do feel that our plan offers reputable and reliable insurance for those who wish it.

In accordance with the House of Delegates' expressed belief that Delaware's dispensing opticians should be supported in their fight for licensure, representatives of the Medical Society appeared at a public hearing to support Senate Bill 99, the Opticians' Licensing Act. Dr. W. O. LaMotte, Jr., Chairman of the Committee on Public Laws and Mr. Lawrence Morris, Jr. spoke in favor of the bill, with Mr. Gilbert Kirk, President of the Delaware Society of Dispensing Opticians. The bill was opposed by representatives of the Delaware State Optometric Association. At the time of this writing, the bill has been reported favorably by the legislative committee, but has not been voted upon by either house.

Five hospitals in Delaware, one from each community having a general hospital, have elected to participate in the two-way FM radio conferences for medical education, planned under the supervision of the Society's Committee on Education. The project has received a tremendous boost from a grant from Smith, Kline & French Laboratories. A program committee of Delaware doctors, representing each of the hospitals involved, met in May with Dr. Fred MacD. Richardson of the Pennsylvania Hospital's extension service and others, to determine subject matter, programming and scheduling for the series. Provided that equipment (some of it is custom-built) can be installed by October, the committee plans to begin the medical education broadcasts on a weekly basis during the academic year of 1959-1960. This is a project which we think promises tremendous benefits to Delaware doctors in the continuation of their education.

Since June is the end of the academic year and mid-point of the fiscal year, it is a good time to spend a moment of reflection on the situation of the nation's medical schools. As we know, our system of medical

education is dependent upon the freedom of the medical schools from outside intervention. It is fair to say that each of us feels an obligation to his own medical school, and that the American Medical Education Foundation offers the best means we have for helping our schools. Each dollar contributed to the A.M.E.F. provides leverage for fund raising from other sources, as it gives concrete evidence of American physicians' support of their own schools. Every dollar sent to the A.M.E.F. and earmarked for any medical school you wish, goes in entirety to that school. The A.E.M.F. keeps nothing for expenses, bookkeeping or anything else. All overhead for the Foundation is paid by the A.M.A. Therefore, I urge you to contribute to the school of your choice, or to medical education in general, through the medium of the A.M.E.F. Your contribution can be sent directly to the American Medical Education Foundation at 535 North Dearborn Street, Chicago 10, or to the office of the Medical Society of Delaware, 1925 Lovering Avenue, Wilmington 6.

A. R. Shands, Jr., M.D.
President



MEREDITH IVOR SAMUEL, M.D., 1875-1959

President of the Medical Society of Delaware for 1939, Doctor Samuel was born in Providence, Pennsylvania and died in Wilmington. Active for years in the Delaware National Guard and Army Reserve Corps, he was a charter member and first State Commander of the American Legion. A veteran of foreign service in World War I, he was active in the Veterans of Foreign Wars as well as the Veterans Administration.

Doctor Samuel was untiring in his efforts to help the sick veteran and will long be remembered by those he befriended.

+ Editorials +

THE CLINICAL LABORATORY

The role of the clinical laboratory and its relationship to clinical medicine frequently is the subject of discussion. There are physicians who criticize their colleagues for an overdependence on the laboratory in the practice of medicine. There are physicians who criticize the laboratory because of a belief that it is impossible to have needed procedures done at the proper time. And finally, there are laboratory technicians who believe that most doctors require all of their laboratory work to be done on an emergency basis and then never stay in the hospital long enough to obtain the results. These viewpoints are divergent and, for the most part, are unfounded on fact and can best be dispelled by an examination of some well known facts.

The clinical laboratory is of great help in the practice of medicine and surgery. Merely reviewing some of the important uses of the clinical laboratory in the treatment of heart disease, a very limited specialty of internal medicine, will show its great importance.

CORONARY ARTERY DISEASE

Coronary insufficiency resulting in angina pectoris or myocardial ischemia usually is due to a narrowing of a diseased coronary artery. Not infrequently, however, it may occur in people with relatively normal coronary arteries in whom there is a severe degree of anemia. This frequently is seen in elderly people with carcinoma of the ascending colon. In such instances, a simple laboratory procedure such as determination of the hemoglobin, red cell count, and hematocrit determination will point to the correct diagnosis and enable the physician to institute immediately the proper treatment.

In myocardial infarction, the laboratory is important in diagnosis and in determining the amount of tissue damage by procedures such as the white cell count and

sedimentation rate. The serum glutamic oxylacetic transaminase (SGO-T) reaction is relied upon quite heavily by some clinicians in the diagnosis of myocardial infarction. An integral part of this diagnosis is the detection of coexistent diabetes. In this, the laboratory is most important.

In the treatment of myocardial infarction with the use of anticoagulant drugs, the prothrombin time is important both from the standpoint of over and under dosage. If a heparian type of drug is used, a coagulation time is necessary. Regardless of which anticoagulant is used, urinalysis is helpful in detecting early signs of bleeding from the urinary tract.

In the study of coronary disease as a whole, the blood cholesterol is of importance. Some investigators using the ultracentrifuge believe that there is a definite relationship between coronary artery disease and lipid molecules of a large size.

RHEUMATIC HEART DISEASE

In the diagnosis of rheumatic fever, the tissue reaction as manifested by the sedimentation rate, the white blood count, and the C-reactive protein are most helpful. Antistreptolysin and antifibrinolysin titers are more specific evidence of preceding streptococcal infection. When a rheumatic valve reaches the stage where surgery is of help, blood transfusions, the determination of electrolytes, and other laboratory procedures incident to surgery are most helpful.

SUBACUTE BACTERIAL ENDOCARDITIS

In the diagnosis of subacute bacterial endocarditis, blood cultures are most helpful and necessary. Determination of antibiotic sensitivity is a portion of this study. As in other conditions, the blood sedimentation rate will give some index of tissue

damage. This condition is usually accompanied by severe anemia.

HYPERTENSIVE CARDIOVASCULAR DISEASE

In this condition it is most important to rule out the few removable causes of high blood pressure. A general renal survey is always indicated which, in addition to urinalysis, includes PSP test and urea clearance determination. The most common removable cause of hypertension is a tumor of the chromaffin cells known as pheochromocytoma. In the past, the best method of demonstrating this condition was either to do a provocative test (one in which certain substances are given to the patient to bring on an attack of hypertension) or else to give the patient a medication that will reduce the blood pressure if the patient is seen during an attack. These tests are not too accurate and certainly are not without danger. At the present time, we are able to obtain bio-assay of the catechol amines. This method is considerably more accurate and necessitates only an examination of the patient's urine.

CONGENITAL HEART DISEASE

Most patients with cyanotic heart disease have polycythemia. The degree of this of course is determined by laboratory tests. In the technique of cardiac catheterization, a procedure that is most important in definitive diagnosis, the oxygen saturation of the blood obtained from different chambers of the heart is most important in correlation with the pressures obtained from these same chambers.

THYROID HEART DISEASE

It has been known for a long time that under or over function of the thyroid gland can be the precipitating cause of serious heart disease. In the diagnosis of both over and under functioning of this gland, the laboratory is important. The basal metabolic rate, the blood cholesterol, the blood protein bound iodine, and the uptake of radio-active iodine are most important. If the diagnosis is made sufficiently early, these dysfunctions of the thyroid can be corrected in time to result in a complete clinical cure of the heart disease.

CONGESTIVE HEART FAILURE

It has been well demonstrated that congestive heart failure is associated with sodium retention. In our treatment of congestive heart failure, the loss of potassium together with the loss of sodium frequently result in severe side effects that are equally serious as the condition under treatment. It is obvious that the laboratory is of utmost importance in the diagnosis and treatment of these conditions.

HEART DISEASE OF UNUSUAL CAUSE

Several decades ago syphilitic heart disease was a common condition. It is a tribute to the laboratory and the laboratory working together with the clinician that this type of heart disease may now be considered one of the unusual types. The utilization of the laboratory in the diagnosis and treatment of syphilis is obvious.

The same may be stated to a somewhat lesser degree about tuberculosis. Tuberculosis was at one time a frequent cause of pericardial disease. The new antituberculous drugs plus the close cooperation of the laboratory has made this condition relatively uncommon.

Lupus erythematosus and amyloid disease are two of the uncommon causes of heart disease. Both of these conditions are diagnosed only by means of laboratory tests. The same is true of some of the other uncommon infectious diseases. Finally, the role of virus infections has long been neglected as a cause of myocardial damage; this important group of diseases will assume their rightful role in the cause of heart disease. This will be seen with the development of virus laboratories.

The above is a brief outline of the usefulness of the laboratory and the importance of laboratory examinations in the diagnosis and treatment of a small segment of patients encountered in medical practice. Should anyone object that the modern physician can not practice medicine without the laboratory, let us emphatically plead guilty. But, in addition, let us be thankful that we have excellent laboratories in our community.

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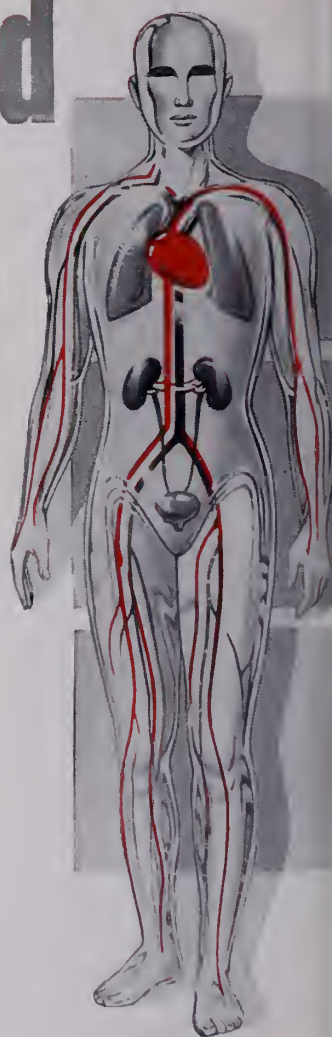
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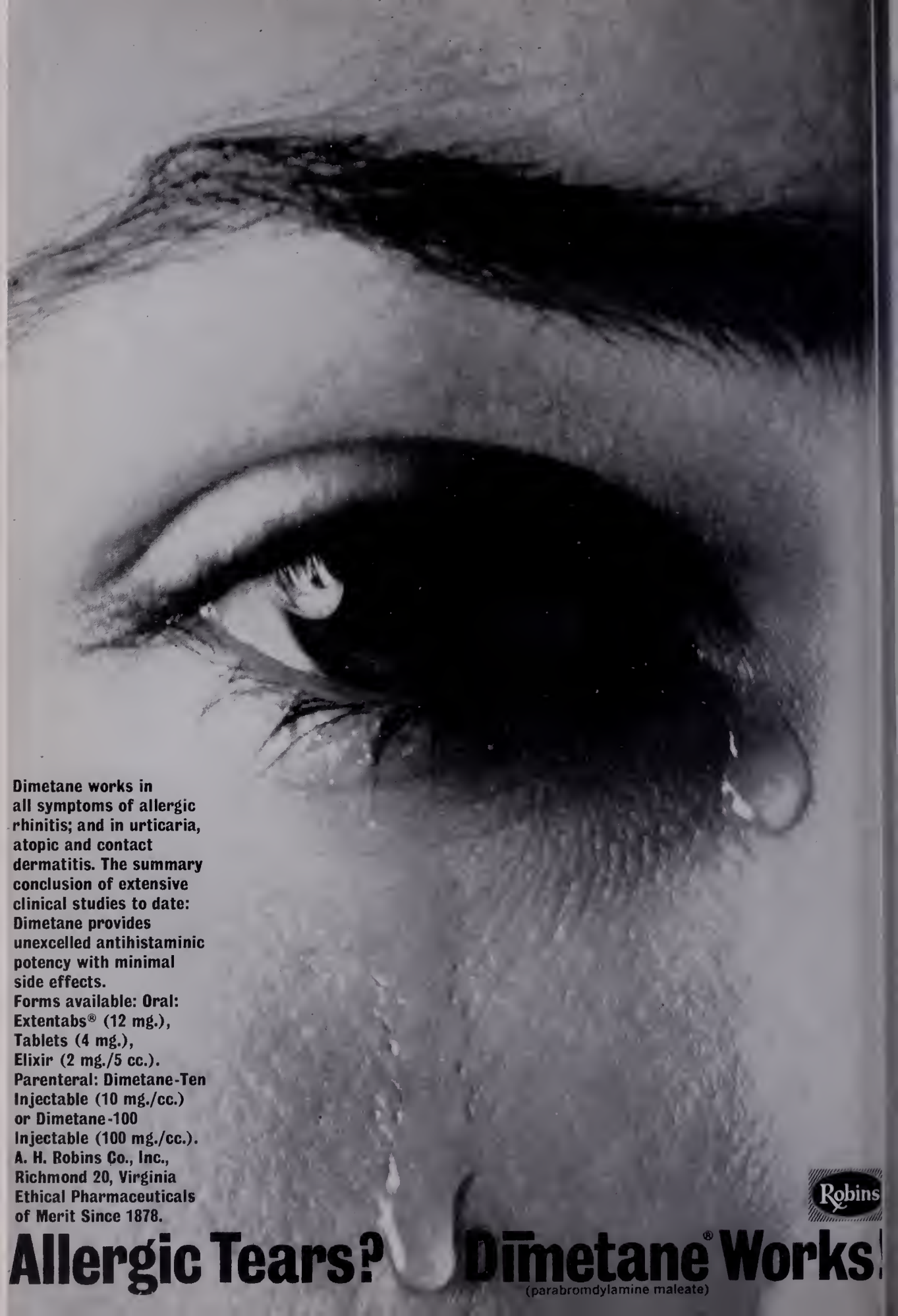
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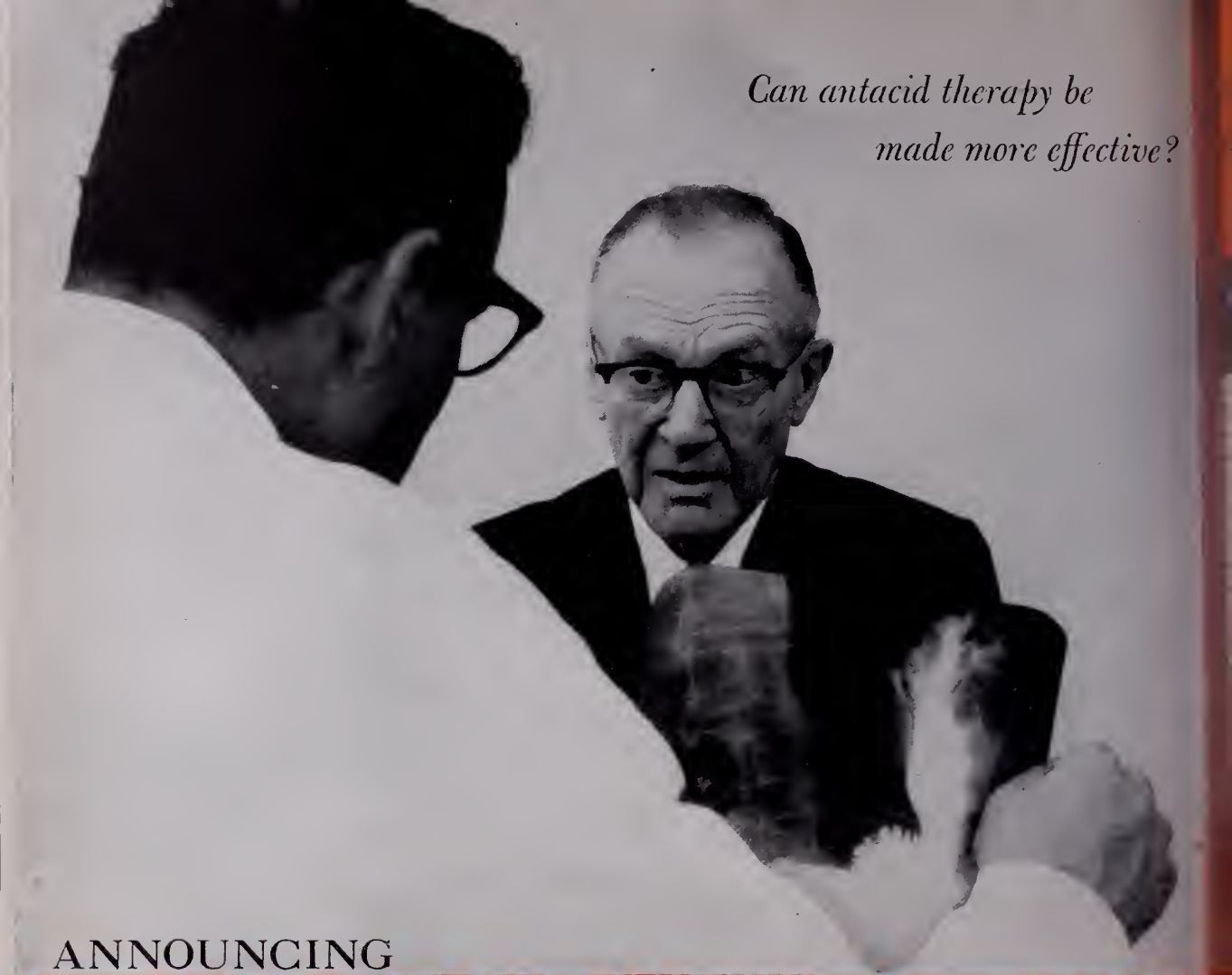
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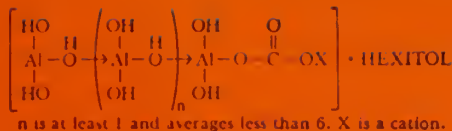
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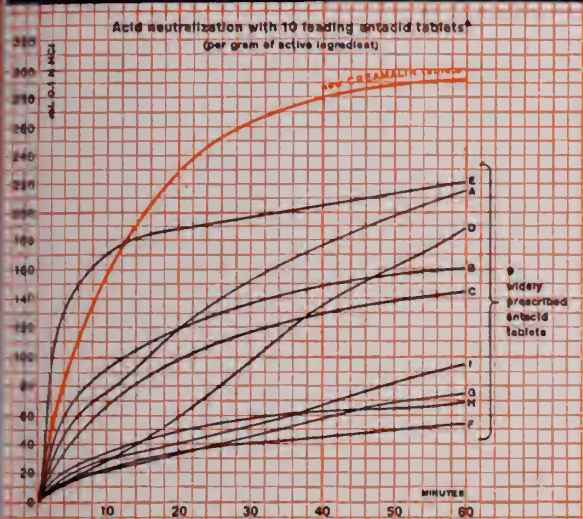
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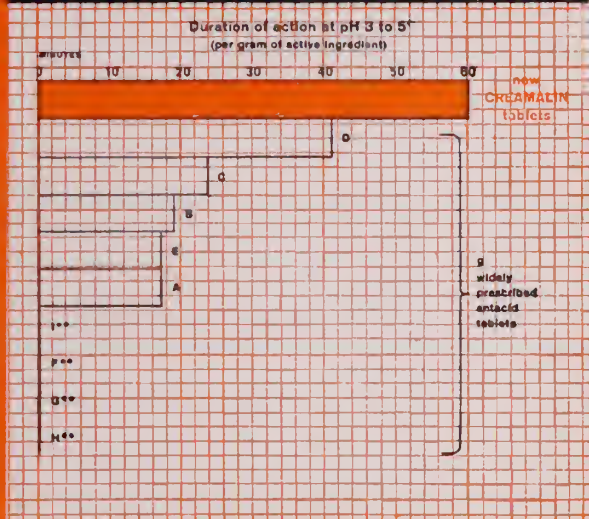


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Tablets were powdered and suspended in distilled water in a constant temperature container (37° C) equipped with mechanical stirrer and pH electrodes. Hydrochloric acid was added as needed to maintain pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

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*Hinkel, E. T., Jr., Fisher, M. P. and Tainter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.
**pH stayed below 3.

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Analgesics offer temporary relief of musculoskeletal pain, but they merely *mask* pain rather than getting at its *cause*. New Medaprin, in addition to bringing about prompt subjective improvement, promotes the *restoration of normal function* by suppressing the inflammation that *causes* the pain.

Medaprin, Upjohn's new analgesic-steroid combination, contains aspirin plus Medrol,** the corticosteroid with the *best therapeutic ratio in the steroid field*.† Instead of suffering recurrent discomfort because of the "wearing off" of analgesics, the patient on Medaprin experiences a smooth, *extended* relief and more normal mobility.

Indications: Medaprin is indicated in mild-to-moderate rheumatic and musculoskeletal condi-

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Dosage: The recommended dosage is 1 tablet q.i.d. The usual cautions and contraindications of corticotherapy should be observed.

Supplied: In bottles of 100 and 500.

Formula: Each Medaprin tablet contains

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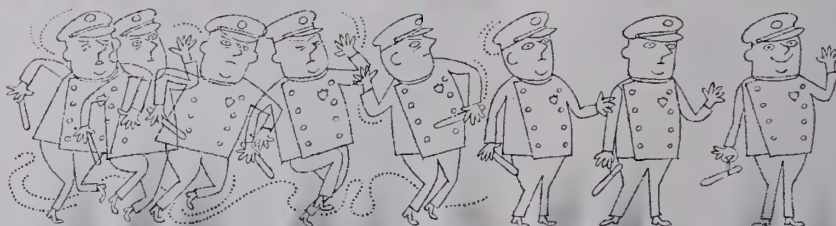
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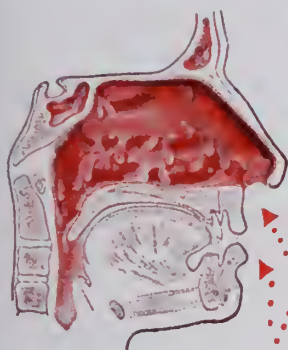
Dosage: one tablet before each meal.

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References: 1. Charles, C. M.: *Geriatrics* 2:110 (March) 1956. 2. Menger, H. C.: *Clin. Med.* 4:313 (March) 1957. 3. Shuster, B. H.: *M. Clin. North America* 40:1787 (Nov.) 1956.



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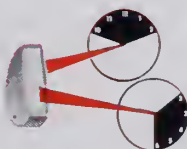
References: 1. Sheldon, J. M.: Postgrad. Med. 14:465 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: Annals Allergy p. 350 (May-June) 1950. 3. Kline, B. S.: J. Allergy 19:19 (Jan.) 1948. 4. Goodman, L. S. and Gilman, A.: Pharmacol. Basis Ther., Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: E.F.N.T. Monthly 37:460 (July) 1958. 6. Lhotka, F. M.: Illinois M.J. 112:259 (Dec.) 1957. 7. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

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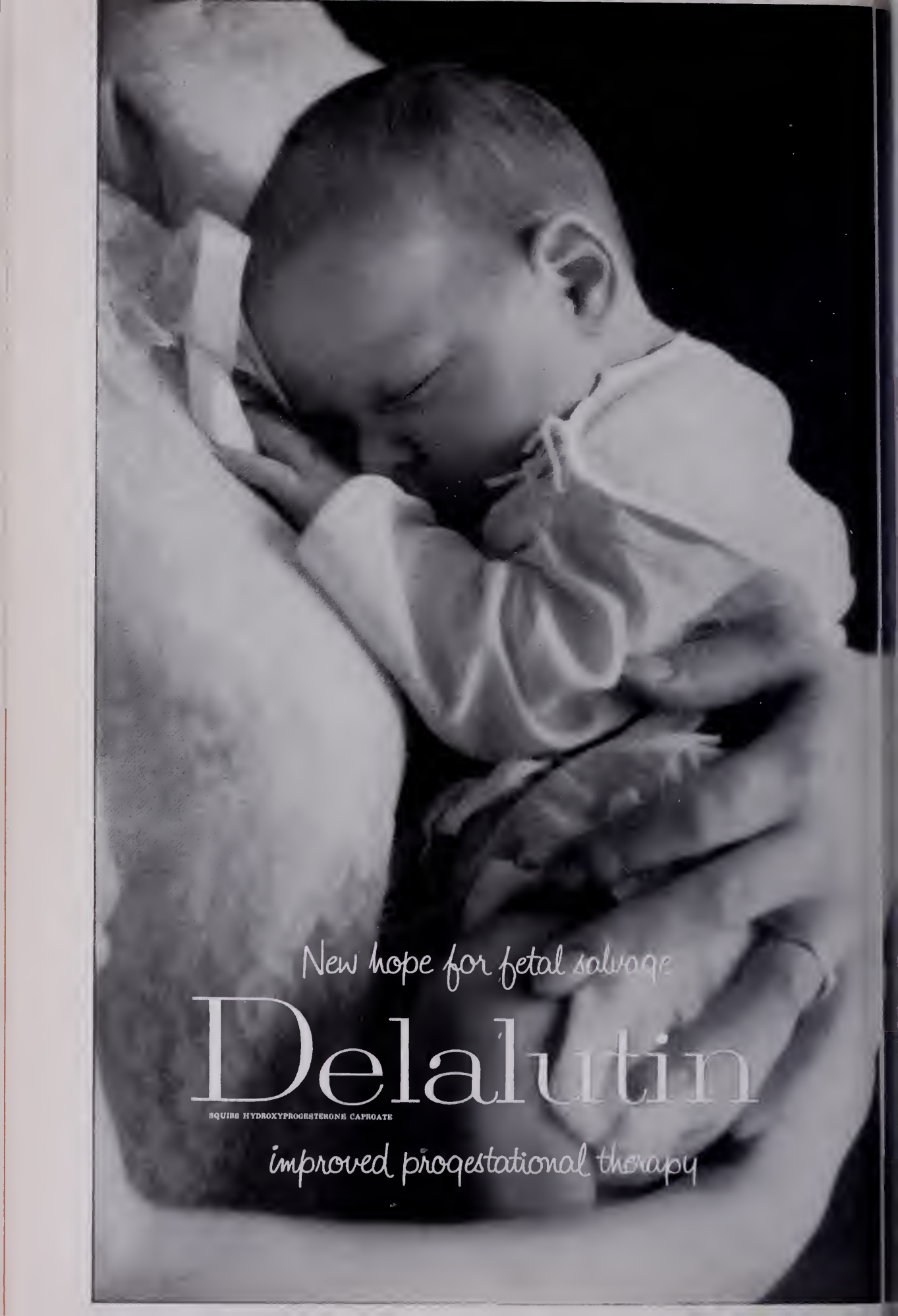
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Boschann,² in a study of pregnancies with threatened abortion, found that:

- 37% of 73 pregnancies were carried to term without progestational therapy
- 64% of 42 pregnancies were salvaged by progesterone
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Eichner,³ found that with Delalutin fetal salvage of infants below term weight (1000 to 2000 gm.) was significantly improved.

108 (76%) of 142 babies of this birth weight survived without progestational therapy.

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DELALUTIN is also potent and safe therapy for: threatened abortion; post-partum after-pains; amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; dysmenorrhea; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

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References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

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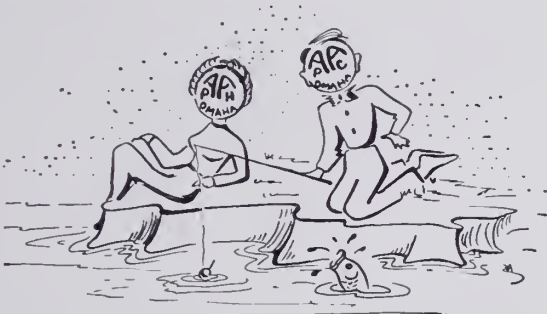
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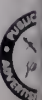


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VOLUME 31

JULY, 1959

NUMBER 7

CUSHING'S SYNDROME SECONDARY TO FOCAL ADRENAL CORTICAL HYPERPLASIA

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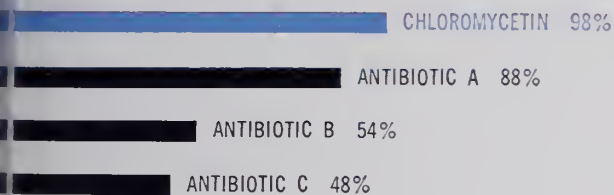
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REFERENCES: (1) Smith, I. M.: *Staphylococcal Infections*, Chicago, Year Book Publishers, Inc., 1958, p. 21. (2) Pryles, C. V.: *Lancet* 2:609, 1958. (3) Monro, J. A., & Markham, N. P.: *Lancet* 2:186, 1958. (4) Purser, B. N.: *M. J. Australia* 2:441, 1958. (5) R. E. O., in National Conference on Hospital-Acquired Staphylococcal Disease, Sept. 15-17, 1958, Atlanta, Georgia, U. S. Health, Education, and Welfare, Communicable Disease Center, 1958, p. 11. (6) Rountree, P. M., & Beard, M. A.: *M. J. Australia* 1958. (7) Mudd, S.: *J.A.M.A.* 166:1177, 1958. (8) Fischer, H. G.: *Deutsche med. Wchnschr.* 84:257, 1959. (9) Royer, A., in: *Antibiotics Annual 1957-1958*, New York, Medical Encyclopedia, Inc., 1958, p. 783. (10) Hennessy, F. Miles, R. A.: *Brit. M. J.* 2:893, 1958. (11) Markham, N. P., & Shott, H. C. W.: *New Zealand M. J.* 57:55, 1958. (12) Oswa Shooter, R. A., & Curwen, M. P.: *Brit. M. J.* 2:1305, 1958. (13) Suter, L. S., & Ulrich, E. W.: *Antibiotics & Chemother.* 9: (14) Borchardt, K. A.: *Antibiotics & Chemother.* 8:564, 1958.

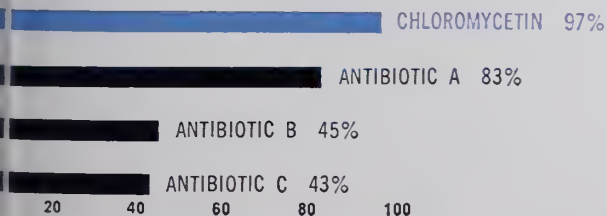


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References: 1. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957; 2. Groskloss, H. H., et al.: Clin. Med. 2:885 (Sept.) 1955; 3. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. 6:580 (April) 1955; 4. Crawley, C. R.; West, J. Surg. 8:463 (Aug.) 1956; 5. Tartikoff, G.: Clin. Med. 3:223 (March) 1955; 6. Dunn, R. D., and Fox, L. P. Clinical exhibit. 7. Codling, J. W., and Lowden, R. J.: Northwest Med. 57:331 (March) 1958; 8. Dougan, H. T.: Personal communication; 9. Leonard, C. L.: Personal communication; 10. Steinberg, C. L.: Personal communication.

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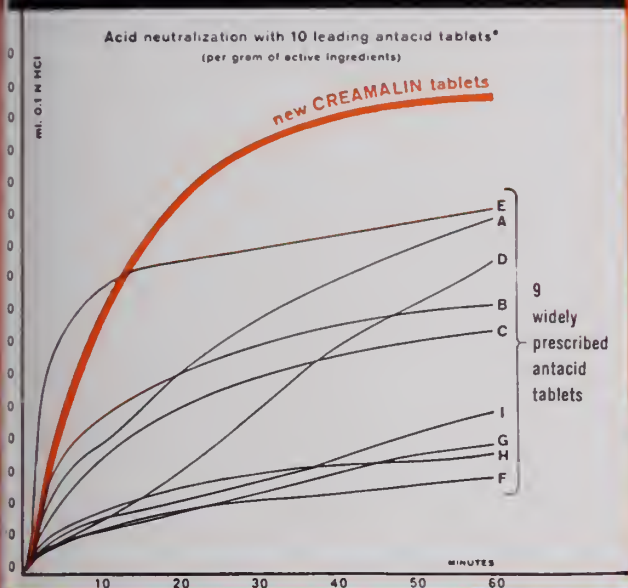
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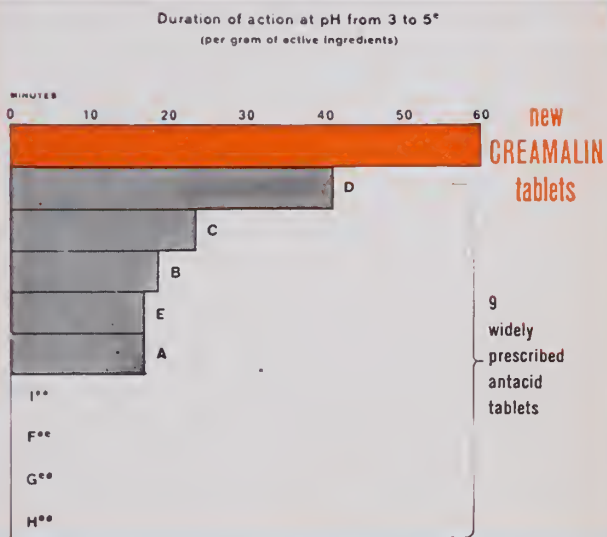
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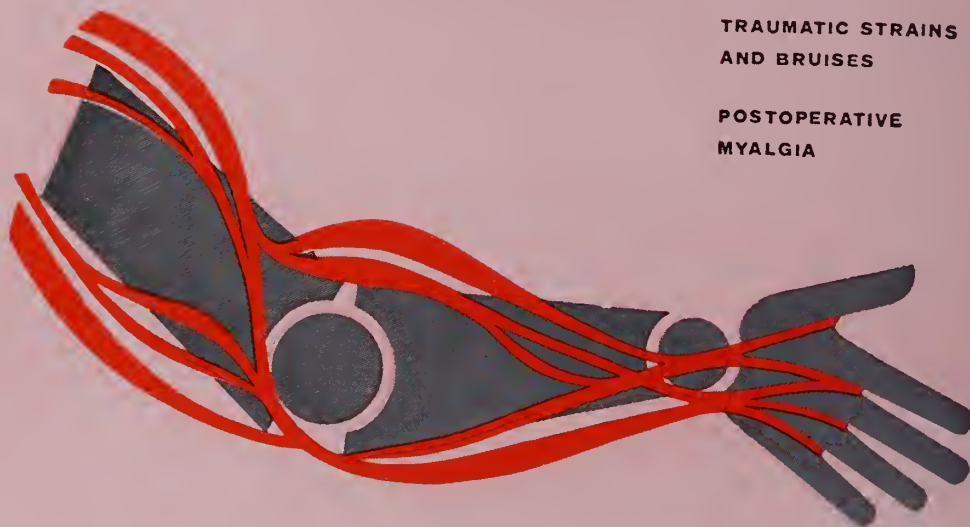
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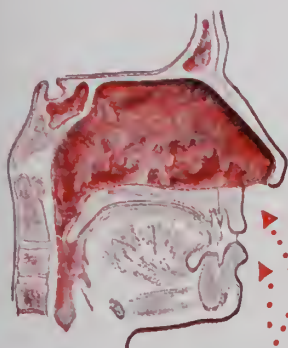
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These antihistamines block the effect of histamine on the nasal and paranasal capillaries, preventing dilation and exudation.³ *This is not enough;* by the time the physician is called on to provide relief, histamine damage is usually present and should be counteracted.

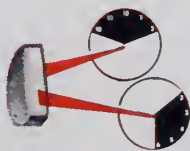
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¹Sadove, Max S. and Schwartz, Lester: An Evaluation of Buffered Versus Nonbuffered Acetylsalicylic Acid, *Postgraduate Medicine*; 24:183, August, 1958.
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|---|--------------------------|--------------------------|
| 1 Corticosteroids relieve rheumatic pain by raising the pain threshold. | ☐ | ☐ |
| 2 Corticosterone is the only corticosteroid identified in adrenal venous blood. | ☐ | ☐ |
| 3 Approximately 10 mg. of urinary 17-ketosteroids are excreted daily during normal adrenocortical function. | ☐ | ☐ |
| 4 The pioneer experiments on the effects of adrenalectomy were performed by Addison. | ☐ | ☐ |

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corticosteroid quiz

answers: 1. False—by altering tissue reaction. 2. False—only hydrocorti-
some has been so identified. 3. True. 4. False—performed by Brown-Séquard.



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CUSHING'S SYNDROME SECONDARY TO FOCAL ADRENAL CORTICAL HYPERPLASIA

Case Report of Successful Surgical Treatment

by Bilateral Total Adrenalectomy

GERHARD HARTENAUER, M.D.*

CLARENCE E. GRAYBEAL, M.D.**

The purpose of this paper is to record our experience in diagnosis and treatment of a patient with Cushing's syndrome, to discuss the interesting aspects of his pre- and post-operative management, and to describe and document the patient's response to therapy.

PRESENTATION OF CASE

This was the first admission to the Delaware Hospital of an 18 year old factory worker who had been referred because of high blood pressure, unexplained pains in both legs and suspicion of some endocrinological disorder.

Approximately five to six years prior to this admission there was a gradual onset of fullness and redness of the face and increasing obesity of the trunk. During the last two years multiple purple cutaneous striae were discovered around the shoulders, lower abdomen, flanks and buttocks. Besides the change in his physical status, there were emotional and mental disturbances in

that he became lethargic, bashful and inactive. There was lack of interest in the usual activities of his age group. Libido was strictly denied.

Physical examination revealed a short boy 61½ inches in height weighing 187 pounds. The pulse was 130 and regular. The respiratory rate was 24, the temperature 99°F, and the blood pressure 220/160. The patient had the typical moon-face with plethoric cheeks. The neck was short and had the characteristic cervico-dorsal buffalo hump. The trunk indicated marked centripetal obesity, while the extremities retained their normal configuration. Dark purplish striae were seen around both shoulders, lower abdomen, flanks and buttocks. Acne vulgaris lesions were present over the anterior chest wall. The breasts had a typical female form and consistency. The penis was of almost normal size, but buried in a big fat pad, while the testicles were rather small. The heart was slightly enlarged to the left. The lungs were normal to percussion and auscultation. No abdominal masses could be palpated. Fundoscopic exami-

*Chief Resident in Medicine, Delaware Hospital

**Chief Resident in Surgery, Delaware Hospital

nation indicated grade 2 focal and generalized narrowing of the arteries of scattered flame-shaped hemorrhages and exudates. The remainder of the physical examination was within normal limits.

The clinical diagnosis was substantiated by the following studies:

1. SPECIAL INVESTIGATIONS

A. Urinary hormone assay studies for 17-ketosteroids and 17-hydroxycorticoids, ACTH test included.

Two 24 hour urine specimens were collected in order to determine the base-line urinary excretion of the 17-ketosteroids and 17-hydroxycorticoids. During the following two days 25 units of ACTH were given intravenously over a period of 8 hours, and the same hormone levels were determined in two 24 hour urine specimens. The hormone assay studies were completed by a final investigation on the day following the ACTH test. The circulating eosinophile count was studied simultaneously.

This is not a diabetic type glucose tolerance curve, demonstrating that the carbohydrate metabolism was not yet affected by the disease process.

3. OTHER LABORATORY STUDIES

BLOOD

RBC 5,700,000 per cmm.

HGB 16.5 gm., 105%

HCT 55%

Reticulocyte Count 1.4% of total RBC

WBC 10,300 per cmm.

74% polys, 21% lymphs, 5% mono.

Circulating Eosinophile Count 37

Platelets 289,000

Total Blood Volume 4485 cc. or 57 cc/kg.

Total Plasma Volume 2437 cc. or 31 cc/kg.

Red Cell Mass 2048 cc. or 26 cc/kg.

Body Hematocrit 45.6%

URINALYSIS

Sp. Gr. 1.010

Trace of albumin

<u>Urinary Hormone Assay Studies</u>			Circulating Eosinophile Count
	<u>17-Ketosteroid</u>	<u>17-Hydroxycorticoids</u>	
Baseline	30.2 mg/24 hrs.	16.0 mg/24 hrs.	37
Baseline	18.0 mg/24 hrs.	12.0 mg/24 hrs.	6
ACTH Test	43.0 mg/24 hrs.	56.0 mg/24 hrs.	0
ACTH Test	68.0 mg/24 hrs.	72.0 mg/24 hrs.	0
Post-ACTH Test	48.0 mg/24 hrs.	32.0 mg/24 hrs.	19

Normal levels for 17 ketosteroids range between 9 and 22 mg. per 24 hours and for 17 hydroxycorticoids between 2 and 9 mg/24 hrs.

B. Blood plasma steroid studies for 17 hydroxycorticoids

Only Baseline Studies:

1. 40 Gamma per 100 cc. of Plasma

2. 27 Gamma per 100 cc. of Plasma

Normal level: 6-15 Gamma

C. Urinary hormone assay studies for estrogens and pituitary gonadotrophin.

Pituitary Gonadotrophin (FSH, LH)

8 - 24 Mouse Units/24 hours

Normal level: 4 - 35 Mouse Units/24 hours

Estrogens

67 - 133 Mouse Units/24 hours

Normal level: 13-27 Mouse Units/24 hours

Acid reaction

RBC 1-3

WBC 4-8

CHEMISTRY

BUN 12 mg. per 100 cc.

CO₂ 25 mEq. per liter

Chloride 99 mEq. per liter

Sodium 139.5 mEq. per liter

Potassium 4.1 mEq. per liter

Calcium 11 mg. per 100 cc.

Phosphorus 2.9 mg. per 100 cc.

Cholesterol 322 mg. per 100 cc.

Total Serum Protein 6.5 gm. per 100 cc.

Serum Albumin 3.5 gm. per 100 cc.

Serum Globulin 3.0 gm. per 100 cc.

<u>2. ORAL GLUCOSE TOLERANCE TEST</u>						
	<u>Fasting</u>	<u>30 min.</u>	<u>1 hour</u>	<u>2 hours</u>	<u>3 hours</u>	<u>4 hours</u>
Blood	77 mg. %	171 mg. %	186 mg. %	116 mg. %	90 mg. %	49 mg. %
Urine	Neg.	Neg.	1 plus	Neg.	1 plus	Neg.

The above figures demonstrate that there was no evidence of hypokalemic alkalosis, hypernatremia, polycythemia, or lymphopenia. The eosinopenia is of paramount importance for the diagnosis. The urine was acid at every examination.

4. EVALUATION OF THE CARDIOVASCULAR SYSTEM

An electrocardiogram indicated left ventricular hypertrophy and sinus tachycardia of 130. Preoperatively, the blood pressure fluctuated between 160 and 220 systolic, and between 130 and 160 diastolic. A ballistocardiogram was consistent with a grade II abnormality.

5. RADIOGRAPHIC INVESTIGATIONS

Roentgenological examinations of the cervical, dorsal and lumbar spine, wrist, knees and ankle indicated mild to moderate generalized osteoporosis but no pathological fractures. A presacral air



EYE GROUND
ON ADMISSION



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study with oxygen visualized only the right adrenal gland which appeared to be normal in size and configuration.

A chest x-ray demonstrated normal diaphragm, heart, mediastinum and lung fields. An intravenous pyelogram was essentially normal.

PREOPERATIVE MANAGEMENT

After the clinical diagnosis of Cushing's syndrome, secondary either to bilateral idiopathic adrenocortical hyperplasia or to simple hyperfunction of a normal adrenal gland, had been supported by the above described special investigations, it was decided to perform a bilateral total adrenalectomy. Preoperatively, the patient was carefully reevaluated by determining hemoglobin, hematocrit, BUN, sodium, potassium, chloride, CO_2 calcium and phosphorus. The day prior to surgery the patient received 300 mg. of cortisone at 10 a.m. and 100 mg. of cortisone at 9 p.m. intramuscularly. On the next day, shortly before the patient was taken to the operating room, another intramuscular injection of 100 mg. of cortisone was given. A gastric tube was passed and connected to a suction apparatus. For preoperative sedation, 75 mg. of Demerol and 0.04 mg. of scopolamine were administered. A cutdown was performed as a precautionary measure.

OPERATIVE REPORT

The anesthesia was induced with sodium pentathol and after intubation the anesthetic consisted of cyclopropane and ether which was given by endotracheal tube. The patient was then turned on his right side and a hypobaric nupercaine spinal anesthesia was performed to alleviate any undue sympathetic response when manipulating the adrenal gland. At the onset of the operation the blood pressure was 190/130 but fell to 150/100 after the induction of anesthesia. The spinal anesthesia caused a fall of the blood pressure to 90/60, and neosynephrine was given intravenously in order to stabilize the blood pressure level. The left adrenal was approached first through a lumbar kidney incision. Gerota's fascia was entered and the adrenal gland located without difficulty, as the kidney was dissected downward through a thick layer of perirenal fat. The gland itself appeared of normal size and no adenomata were palpable. After ligation of the gland's blood supply, it was totally removed without difficulty. The operative site was drained, several through and through #30 stainless steel wire retention sutures were placed and the wound finally closed with interrupted chromic catgut sutures on the muscle and fascial layers.

The blood pressure, which had remained steady at about 150/120, fell to 100/70 after the left adrenal gland had been totally removed. 100 mg. of Solu-cortef was administered and the blood pressure rose to 140/90. The patient was then turned and the right adrenal was approached through an incision similar to that of the opposite

side. The moment the right adrenal artery was ligated, the blood pressure fell to 60/30, but it quickly recovered after neosynephrine support and remained at about 100/60. The excision of the right adrenal gland offered no more difficulty than the left one. It also appeared normal in size and no adenomata were palpable. No accessory adrenal tissue was visualized. The closure was similar to that of the opposite side.

The patient was kept in the recovery room for 50 minutes at which time his blood pressure was 140/104, the pulse was 100 and regular, the respiratory rate was 24, and the temperature was 101.6°.

PATHOLOGY FINDINGS

The left adrenal weighed 9 grams and measured 7.5 x 3 x 1.5 cm. The cortex appeared yellowish with orange mottlings and measured 3 mm. in thickness.

The right adrenal weighed 7 grams. It measured 5 x 5 x 2.5 x 1 cm. The cut sections showed a yellow-orange cortex which was 2 to 3 mm. in thickness. Together the glands weighed 16 grams.



Figure 1: Right Adrenal

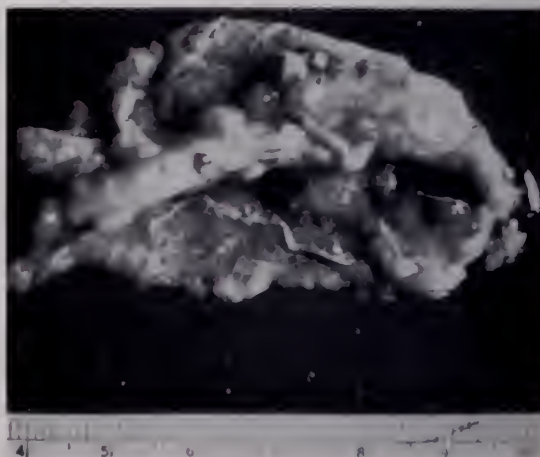


Figure 2: Left Adrenal

There was no configuration to suggest adenomatous hyperplasia in their gross description. (Fig. 1 and Fig. 2).

Microscopically there appeared to be minimal cortical thickening, with the zona fasciculata being mainly involved. With hematoxylin and eosin stain, the outer portion of the zona fasciculata appeared as a rather irregularly edged area of clear cells which were pale staining. A deeper inner zone of more granular appearing cells was noted which stained deeper with hematoxylin and eosin, and cell cords were somewhat thickened.

Both zones varied considerably in thickness within the same gland, and the junction point between the clear cells and the more granular cells in the cortex was rather indefinite. In some foci an apparent abrupt demarcation could be seen. Most of the substance of the cortex was composed of the darker granular cell layer.

The zona glomerulosa was difficult to visualize, being extremely narrow in most sections, and completely missing or compressed in others. Where the zona glomerulosa was missing, the

outer clear cells of the zona fasciculata appeared to extend all the way to the capsule. The zona reticularis was not altered in these glands.

Although adenomata were not observed grossly, there were a few circumscribed collections of cells in the zona fasciculata. These were arranged in a micronodular pattern when viewed under the microscope. They measured only a few millimeters in diameter, showed no encapsulation and occasionally contained mixtures of large granular as well as clear cells. An interesting finding was prominent infiltration of the deeper portions of the zona fasciculata and zona reticularis by groups of fat cells. Focal collections of lymphocytes and plasma cells were found in the interstitial spaces of the cortex and may have been related to recent surgery.

HISTOLOGICAL DIAGNOSIS

In summary, microscopic findings were consistent with multiple foci of adrenal cortical hyperplasia with focal fat infiltration and chronic adrenalitis. (Fig. 3, Fig. 4, Fig. 5, Fig. 6)

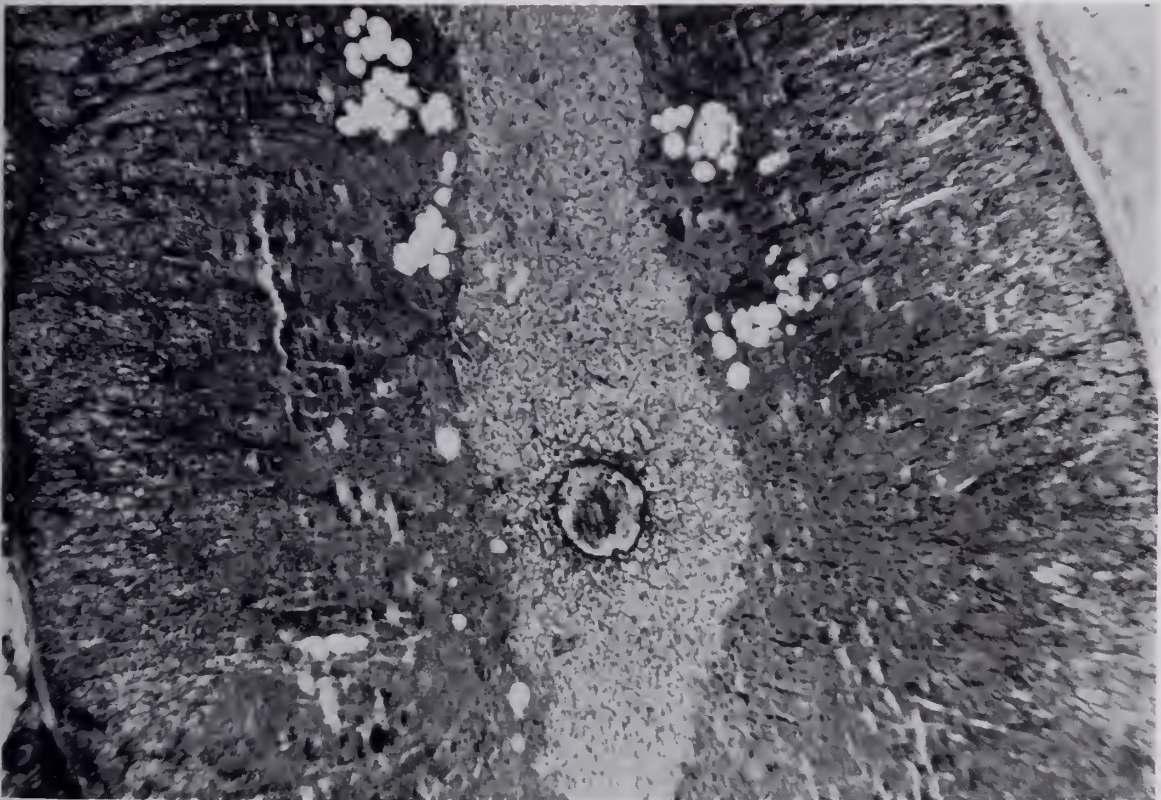


Figure 3 (X 25): Narrow to absent zona glomerulosa. Increased thickness and breadth zona fasciculata. Fat infiltration of zona reticularis and deep portion zona fasciculata.



Figure 4 (X 75):

Markedly narrowed, focally absent zona glomerulosa. Increased depth and width of cords of cells in zona fasciculata with increased granularity deeper portion.

Figure 5 (X 320):

Medial portion zona fasciculata showing slight hypertrophy of cell cords and marked granularity of cytoplasm.

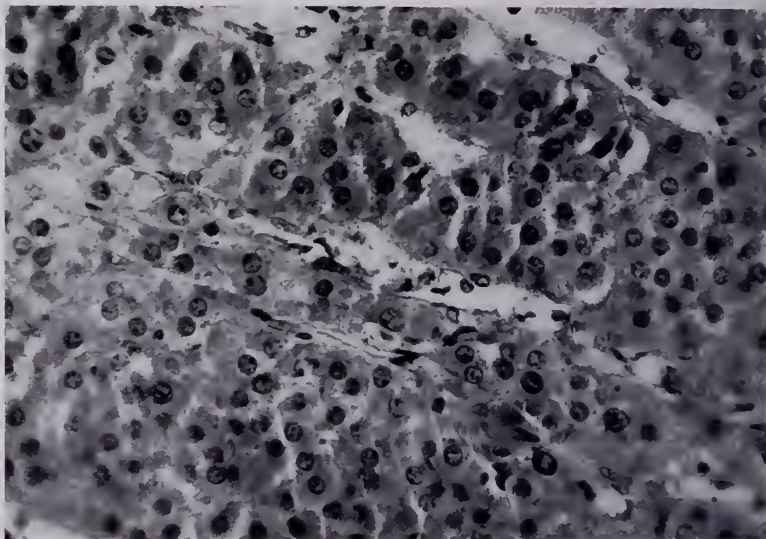


Figure 6 (X 75):

Non-encapsulated cortical nodule composed of mixture of vacuolated and granular cells.

POSTOPERATIVE MANAGEMENT AND COMPLICATIONS

Several days postoperatively, a subcutaneous infection of the posterior portion of the left wound became evident. This condition was treated by removing several skin sutures to allow more adequate drainage. A penicillin resistant, hemolytic *Staphylococcus aureus* was cultured from the wound. Irrigation with neomycin solution was carried out and kanamycin, 250 mg. was administered every six hours for seven days. With the above mentioned treatment, the infection subsided gradually, the wound granulated and healed within two and one-half weeks. The right wound remained free from infection, but the skin reflected delayed wound healing by taking twice as long to heal as the skin of a normal individual.

The postoperative management of the patient's electrolyte status by substitutional steroid therapy with cortisone and desoxy-

corticosterone (DOCA) and by sodium chloride administration was completely dependent on the sodium, chloride, potassium and CO_2 determinations and on early signs and symptoms of adrenal insufficiency. The patient was discharged five weeks after the bilateral adrenalectomy and his substitutional steroid therapy consisted at that time of 25 mg. of cortisone twice daily and 5 mg. of DOCA sublingually every other day.

Postoperatively, the skin of the face became dry, erythematous and itchy. Superficial layers were shed in the form of fine dry scales. This skin condition lasted for about three weeks. Brown pigmentation of the operative scars or other portions of the body described by many authors was not seen. The well-described "cortisone withdrawal syndrome" was apparent in our case. The symptoms of this syndrome consisted of anorexia and vomiting early in the morning, abdominal discomfort, low-grade



ON ADMISSION: Note the round face, short neck, buffalo hump, multiple striae, acne vulgaris lesions over the anterior chest, centripetal obesity sparing the limbs increased growth on limbs and buttocks. Figures 7 and 8.



FIVE MONTHS AFTER SURGERY: Note the weight loss of 46 pounds and marked diminution of the above described signs. Figures 9 and 10.

fever, tachycardia, weakness and restlessness. The mental state changed quite frequently during these episodes from one of excellent cooperation to that of reluctance and resentful ill-humor.

LONG TERM MANAGEMENT

The initial dosages of cortisone and DOCA were gradually decreased over many weeks, even temporarily to levels considered too low for substitutional therapy.

The replacement therapy currently consists of 12.5 mg. of cortisone twice daily and 0.1 mg. of fluorocortisone (Florinef) every other day orally. Electrolytes are checked periodically and have been stable now for several months.

PRESENT STATUS

The tremendous improvement in this patient's condition can be documented by the striking change in the physical findings, by the reversal of a hypertensive blood pressure level of 260/160 to a normotensive level of 128/82, by the weight loss of 46 pounds,

by the remarkable improvement of the hypertensive eye ground changes, by the striking disappearance of all mental abnormalities, and by the return of the ECG to normal. The striae have faded but are still visible. Prognostically, there is good reason to assume that this patient will continue to improve.

SUMMARY

An 18 year old boy is presented who exhibits a typical history and the characteristic physical findings of Cushing's syndrome. The diagnosis is substantiated by urine and plasma-hormone assay studies and other laboratory procedures. Most important aspects of the preoperative management, surgical procedure, and postoperative care are discussed. The approach to the maintenance level of steroid replacement therapy is described.

Finally, the patient's present status is summarized as a documentation of the successful therapy for Cushing's syndrome by bilateral total adrenalectomy.

PRACTICAL ASPECTS OF BLOOD GROUPING IN PATERNITY SUITS

● A brief review of genetics will aid in examining blood group determinations and their application in paternity suits.

With the blood group systems known today, approximately 100,000 different blood types can be identified although only a few of these systems are of use medico-legally.

The day will come when an individual's blood group will be as distinctive as his fingerprints.

MARVIN SHUSTER, M.D.*

Fifteen states† have enacted laws accepting blood grouping as evidence in disputed paternity suits. The infallibility of blood grouping is becoming more generally recognized. Since Landsteiner's identification of the A and B blood factors, much progress has been made with the discovery of many more blood group systems and numerous statistical studies establishing their inheritance patterns. These blood group systems include the following: ABO, MNSs, Rh, Kell, Duffy, Kidd, Pp, Lutheran, Lewis and Levay. At present only a few of these blood group systems are of use medico-legally. Eventually, sufficient blood groups may be

recognized that an individual's blood will be as distinctive as his fingerprints. With the blood group systems known today, approximately 100,000 different blood types can be identified¹.

Unlike many physical traits, blood groups cannot be altered. The antigens, determined serologically, are present at birth on and in the red blood cells. These facts are obviously important medico-legally. In addition to disputed paternity proceedings, blood grouping tests are also of value in cases of derivative citizenship², "exchanged"

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†New York, New Jersey, Wisconsin, Maryland, Ohio, Maine, South Dakota, North Carolina, Michigan, Indiana, Massachusetts, New Hampshire, Rhode Island, Oregon and Pennsylvania.³

baby cases, personal identification and examination of blood stains.

Serologic determination of blood groups depends on antigen-antibody interaction. Antigens (blood factors) are present on the red blood cell. Potent and specific antibodies (in antisera) must be available for identification of the corresponding antigens. This may be done by direct interaction or indirectly as in the Coomb's test. The technical procedures involved are beyond the scope of this paper.

To understand the practical use of blood grouping tests in such cases as disputed paternity suits, one must have good comprehension of the genetic processes involved. Genetics is the science of heredity and hereditary transmission of various body traits or properties. The individual receives factors from his parents. Each human cell, except the germ cell, contains 46 chromosome—23 pair. One chromosome of each pair is derived from the mother and the matching chromosome from the father. Mature sperm and ova have 24 chromosomes and during fertilization, the combining of sperm and ovum gives the full chromosomal complement to the new individual.

Chromosomes are composed of complex yet specifically arranged proteins in chain-like arrangement. Genes may be considered as unique arrays of amino acids and other organic compounds situated at specific loci on the chromosome. This can be visualized as a string of beads. The genes are responsible for the various properties as hair color, body habitus, iris color and many others including, of course, the blood types. Genes occurring at the same locus on matching chromosomes are called alleles when they are determinants of different qualities of a given trait. Thus the genes determining blue or brown irides are alleles. A dominant gene is one which finds outward expression or can be easily determined. Recessive genes may or may not be expressed in a visible or easily determined trait or property. A dominant gene with its matching recessive gene will often give rise to the outward appearance of the characteristic determined by the dominant gene. Although this is true of such things as hair

color and iris pigmentation, it does not entirely hold true in blood grouping. This will be discussed later.

The outward expression of gene make-up is called the phenotype. Genotype is more specific and indicates the exact gene composition of an individual for given properties. Where the genotype consists of two identical genes, it is called homozygous. Homozygosity, therefore, can occur with two dominant or two recessive genes. If dominant and recessive genes are present at the same locus of matching chromosomes, the individual is heterozygous.

The ovum and sperm each carry only one of each chromosomal pair. A heterozygous individual has, potentially, two different types of germ cells he (or she) can produce. This can be illustrated using the ABO blood group system as an example. Both A and B genes are dominant and O gene is recessive. These genes transmit the corresponding named antigen (agglutino-gen) found on the red blood cells. A person designated as A blood type may be either homozygous or heterozygous. That is, he may have two A genes or an A and an O gene. This is also true of B blood type. A person with O blood type is of necessity homozygous. Type AB individuals are heterozygous and have both an A and a B gene.

This brief review of genetics will aid in examining blood group determinations and their application in paternity suits.

ABO System

The same basic rules of inheritance obtain when using this blood group system.

1. A and B genes are dominant.
2. O gene is recessive.
3. An individual with O type of blood cannot be a parent of an AB type child.
4. An AB type person cannot be a parent of a child with O type blood.
5. A or B genes can be present in the child only if present in one of the parents.

From these thoroughly accepted rules, a chart may be constructed with all possible ABO group matings to determine possible ABO types of children, or conversely, given blood type of mother and child, we can exclude certain blood types in a man designated as the father.

Several alleles of A type are known and these give rise to subgroups of A known as A₂, A₃, A₄, A₅ and A₆. Tests for the subgroups of A are not sufficiently reliable for medical-legal work. Their use would increase the number of exclusions of paternity by only 1%. In a wrongly accused male, the ABO system can be expected to prove non-paternity in 18% of cases, according to Wiener⁴.

MNSs System

The MN system is genetically simple. More recently two allelic genes called S and s were found to be closely associated with genes M and N. However, because of scarcity of potent and reliable S and s antisera, testing for these antigens is best deleted in the serologic workup of disputed paternity cases. In contrast to other gene pairs, both M and N are dominant. Three serologic types are recognized: M, N and MN. These phenotypes are also expressions of the genotype. The basic rules of inheritance in this system are:

1. Each parent contributes only one gene, either M or N.
2. An M parent cannot have a child of Type N.
3. An N parent cannot have a type M child.

When testing erythrocytes for these antigens, it is important to include suitable known control cells of types M, N and MN. Use of two or more different antisera also is recommended. A chart similar to the ones made for the ABO system can also be constructed for the MN system. Using this system alone, wrongly accused individuals may be excluded in 18% of such cases.

RH System

In the Rh system of blood groups, the

alleles are designated by English serologists and many American workers as Cc, Dd, Ee. This nomenclature is easier to work with than the more cumbersome terminology of Wiener in which Rh and hr are followed by various subscripts and superscripts. The question of nomenclature is still unsettled and the reader is referred to the report of the latest American Medical Association's Committee on Medico-legal Problems⁵ for more information on this matter. Antisera are currently available for all antigens except that designated d. For that reason we cannot give exact genotypes for bloods that are phenotype D. Tables are available⁶ indicating probable genotypes of these individuals. There is perhaps a 10% error in using these tables.

General rules to be applied to the Rh blood group system are:

1. C can appear in a child only if present in one of the parents.
2. Antigen c can appear in a child only if present in a parent.
3. D is present in a child only if one or both parents have D type.
4. E can be present in a child only if parent or parents have E type.
5. Antigen e, similarly, must be present in one or both parents to be found in the child.

The above rules are an oversimplification of the inheritance of the Rh blood group factors. Gene deletions have been known to occur as have variants of C antigen. Wiener estimates that use of Rh blood system alone will result in exclusion of 25% of unjustly accused men.

Other Blood Group Systems

Numerous other blood group systems are known and their inheritance patterns have been fully established. Their inclusion in blood grouping workups in medico-legal situations is not recommended. Reasons against their use is, (1), poor supply of potent antisera, (2), weakly antigenic factors producing equivocal results and, in many systems, statistically few cases where

any benefit would be derived. These blood group systems include Kell-Cellano, Lutheran, Duffy, Kidd, Lewis, Levay, Pp and some other obscure ones.

Adjuvant Determinations

Individuals are divided into secretors and non-secretors of A, B and H substance⁸. It is known that A and B substance are widely distributed in the body cells and secretions. Secretors of A blood type secrete A substance in their saliva and those of B blood type secrete B substance in their saliva. Individuals of O blood type secrete H substance. Both A and B blood type individuals who are secretors also secrete H substance. Anti-H serum is available and can be used to determine whether a person is or is not a secretor. Known secretor and non-secretor salivas should be run simultaneously. Allelic genes S and s (*not* related to the MN system) are said to control this trait. Capability to secrete is considered dominant. Approximately 80% of all individuals are secretors. This can be helpful in paternity suits since a secretor child of a non-secretor mother cannot have a non-secretor father. This determination is not recommended for medico-legal use at present.

Precautions in Medico-legal

Applications of Blood Grouping

All parties concerned in the disputed paternity case, mother, child and accused man, must be definitely identified before serological determinations are carried. This can be done through fingerprints, photographs and signatures, but the best method is mutual identification of the individuals. Competent laboratories must be employed. The AMA Committee on Medico-legal Problems have set forth the criteria of an expert in blood grouping⁹. It is better to have two independent laboratories perform the blood grouping determinations. Technically, proper control cells must be used along with the red cells of the parties concerned. More than one serum should be used in testing for each antigen. All medico-legally accepted blood groups must be tested for.

DISCUSSION

There are two types of exclusion of paternity. One is the "failure to inherit" in which a child does not have a factor that is present in the putative father. In this case, we must know the man's genotype relative to any given blood group. A simple example of this type of exclusion is a child of type O and mother of type O where the putative father is type AB. Where this man the father, the child must be either type A or B.

The other type of exclusion is the "appearance of a strange factor" not present in either mother or accused man. Thus a child group A and mother group O cannot have a father of group O.

It is obvious that only results indicating exclusion of paternity are of medico-legal importance. Reports of the serological laboratory are best recorded in chart form giving name of individual tested, date, examiner and positive or negative designation under each of the factors tested. Interpretation should read only "exclusion of paternity" or "non-exclusion of paternity." Results showing non-exclusion of paternity should not be presented in court since this might serve to prejudice a jury.

Overall, using only ABO, MN and Rh blood grouping systems, a wrongly designated man will be excluded in over 50% of cases. Exclusions are not the sum of exclusions in each blood group since simultaneous exclusions may occur in more than one. Exclusion on the basis of more than one blood group factor is no more meaningful than exclusion by a single blood factor.

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ACUTE MYOCARDIAL INFARCTION MASKED BY BOTH LEFT BUNDLE BRANCH BLOCK AND DELIRIUM TREMENS*

● The electrocardiogram is the time-honored method in the diagnosis of myocardial infarction. Recently, SGO-T determinations have been used in confirmation. In the interesting case reported here, the accuracy of both of these tests has been impaired by other factors and the diagnosis was made largely on clinical grounds.

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In 1954, La Due, Wroblewski and Karmen¹ were the first to establish the value of the serum transaminase (SGOT) level as a diagnostic measure for acute myocardial infarction. The result of their research on this subject stimulated others to begin probing deeper into the value of the serum transaminase test as an index of liver cell injury². Numerous other conditions were shown by Lieberman, et al³ to be associated with normal values of SGOT unless acute damage to cardiac, hepatic or striated muscle tissue was involved.

Since SGOT is present in all human sera and in various tissues, particularly heart muscle, liver, skeletal muscle and kidney,

sufficient necrosis of any of the above may cause a rise in serum SGOT levels. Shields and Shannon⁴ reviewed 29 patients having one or more SGOT levels greater than 400 units. There were eight cases of primary liver disease with a transaminase range between 490 and 2150 units, the average being 1027 units.

The remaining 21 cases were divided into three groups: (1) in the first group were three cases which exhibited acute congestive hepatomegaly without clinical or electrocardiographic evidence of myocardial infarction. The SGOT levels in these patients ranged from 700 to 3000 units, with an average of 1510. (2) in the second group were nine cases exhibiting definite clinical and electrocardiographic evidence of acute myocardial infarction and passive conges-

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tion of the liver. The peak SGOT levels in this group ranged from 430 to 2050 with an average of 886. (3) In the third group were nine cases showing definite clinical and electrocardiographic evidence of acute myocardial infarction without clinical evidence of enlarged or tender liver. In this group the peak SGOT levels ranged from 400 to 675 with an average of 482.

As shown by Molander, Wroblewski and La Due² the characteristic alterations of serum glutamic oxalacetic transaminase (SGOT) activity have been useful in assessing the presence and the degree of both heart muscle and hepatocellular damage.

Bang, et al⁶ reported 39 cases during and after heavy alcohol ingestion and correlated the enzyme activity with blood alcohol levels. 80% of the chronic alcoholics exhibited a significant rise in the SGOT activity after acute alcohol intoxication. In this study it was noted that the enzyme activity remained elevated for from 2 hours to 11 days after the alcohol intake but on the average fell to normal by the fourth day.

As is well known, one of the difficulties in the electrocardiographic interpretation of recent myocardial infarction is the presence of left bundle branch block. Here, the presence of myocardial necrosis raises the enzyme levels of SGOT and can be very helpful in the diagnosis of acute myocardial infarction.

CASE REPORT

A 59 year old white man was admitted to the Delaware Hospital on September 9, 1958 at 5:00 a.m., with the chief complaint of shortness of breath and a rapid heart beat. He had apparently been well until about one week prior to admission, during which time he noticed progressive exertional dyspnea. This became more severe the evening before admission, with sudden increase in heart rate and cold sweat. He did not complain of chest pain but did have a severe constricting type of pain in the epigastrium. The patient had been drinking heavily for many years, apparently with an increase in the amount of alcoholic intake during the week prior to admission;

he smoked about 1½ to 2 packs of cigarettes daily.

His past medical history was negative for heart disease or anginal symptoms; however, he had had a subtotal gastrectomy about three years before because of peptic disease, and had also had bilateral inguinal herniorrhaphies. He denied other operations or illnesses.

Physical examination revealed the following pertinent facts: well developed and well nourished male who appeared apprehensive but oriented, with cold, moist, pale skin without cyanosis. Initial blood pressure was 120/90mm of Hg, temperature 97.4°, pulse 140 and respirations 40. There were minimal sclerotic changes in the eye-grounds. The neck veins were not distended and the thyroid was not palpable. Auscultation revealed crepitant rales in both lung bases posteriorly and sinus tachycardia without murmurs. No friction rub was heard. The abdomen was soft and flat and revealed the scars of previous surgery. Peripheral pulses were adequate and there was no edema; neurological examination was negative.

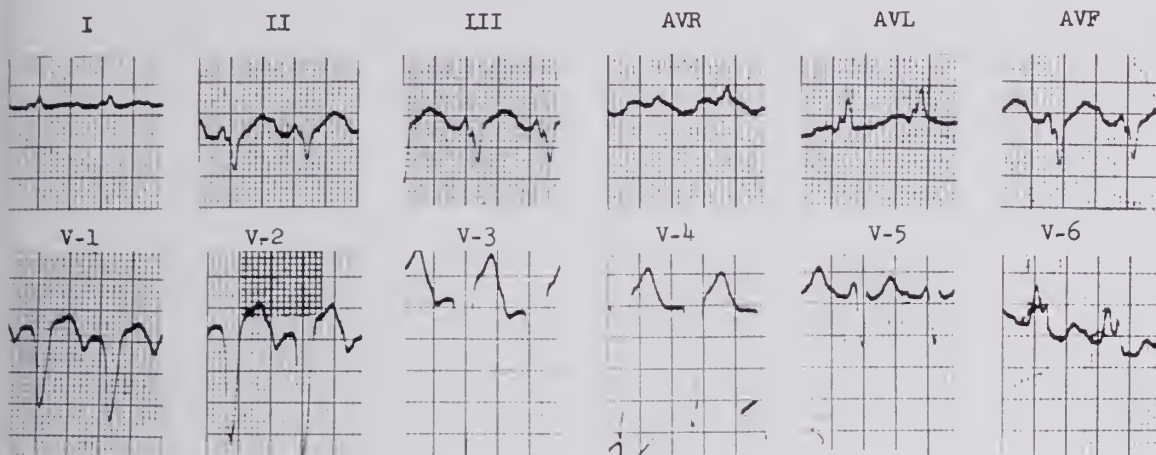
He was placed in an oxygen tent and given sedation prior to special studies.

On the day of admission his electrocardiogram revealed left bundle branch block, first degree heart block and tachycardia. The pattern suggested acute septal infarction despite the presence of the left bundle branch block. A second tracing on the same day revealed ST-T segment changes consistent with an acute process (Fig. 1). On the same day his transaminase was 92 units.

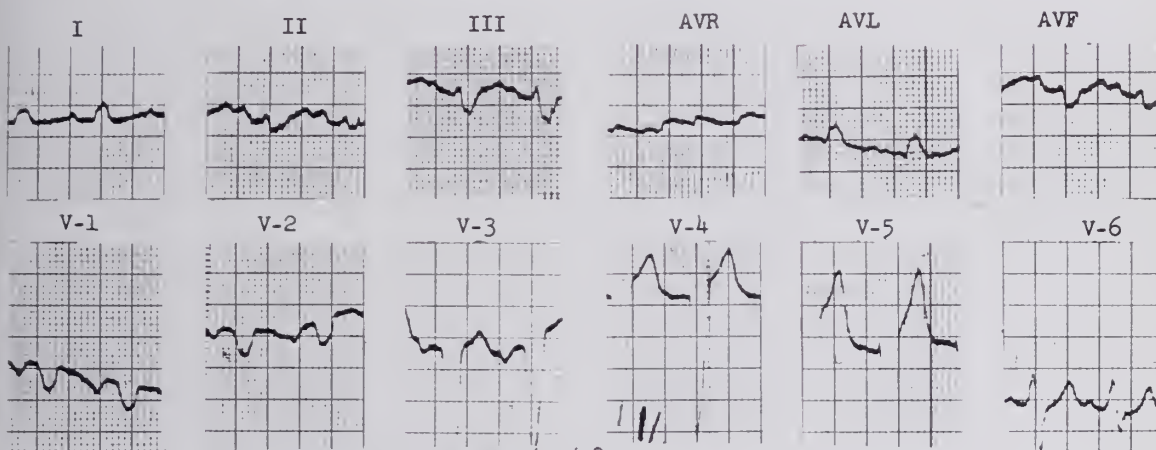
Anticoagulant therapy was begun and rapid digitalization with Cedilanid and digoxin was instituted.

On the second day of his illness his transaminase rose to a level of 410 units in the morning. On the evening of this day, the patient began to show confusion, and was found out of bed. By midnight he was completely disoriented and delirium tremens was obvious. Restraints were required, and by 2:00 a.m. on the third day

FIRST TRACING TAKEN ON 9/9/58



SECOND TRACING TAKEN ON 9/9/58



THIRD TRACING TAKEN ON 9/15/58

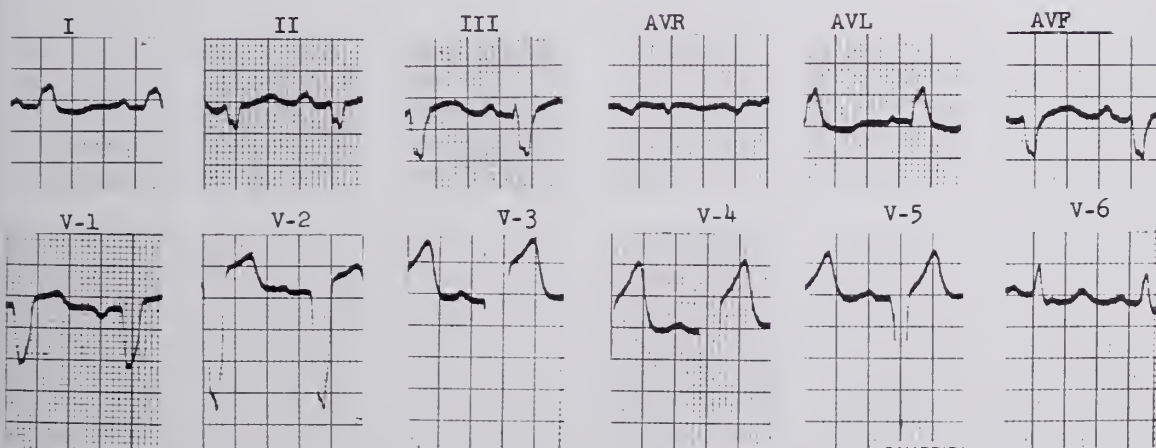


FIGURE 1

he was actively hallucinating and required sodium amytal intravenously plus steroids and pharyngeal aspirations.

He received 300 mgm. of dicumerol on the first day and 200 mgm. on the second. This resulted in a precipitous drop in his prothrombin time to less than 10% where it remained for three days. This, as well as the second rise in transaminase, reflected his hepatocellular injury. Because of small amounts of blood in his throat aspirations and the presence of large hematomata at the site of venous infusions, it was deemed advisable to discontinue anticoagulant therapy. He received 5 mgm. Mephyton intravenously, on the third day of his illness, 10 mgm. the following day, and his prothrombin time returned to 90% of normal on the sixth day. With the use of Thorazine, steroids and symptomatic therapy, the patient's sensorium gradually cleared. On the sixth day the transaminase had dropped to 134 units.

The remainder of his hospital course was uneventful and he was gradually ambulated, being discharged on September 29th.

During the course of his first few days, the following laboratory work was done: hemoglobin 101% (15.8 gm.), WBC 9,000 with 86 polys seg, band forms 2%, lymphocytes 8% and monocytes 4%. VDRL was non-reactive and his initial sedimentation rate was 6mm. Other studies revealed the following: BUN 9 mgm%, feasting blood sugar 96 mgm%, serum cholesterol 246 mgm%, serum sodium 135 meq/l, serum potassium 4.95 meq/l, CO₂ 20 meq/l and chloride 102 meq/l. Urinalysis showed 1+ albumin and was negative for sugar and acetone. On September 17th a portable film of the chest showed the lung fields to be clear and the cardiac shadow to be within normal limits. No free fluid was seen.

DISCUSSION

The value of transaminase in acute myocardial infarction has been particularly useful in the so-called masking forms of this illness. This includes myocardial infarction in the presence of old or recent pericarditis,

Wolff-Parkinson-White syndrome, acute infarction superimposed on previous old infarctions, and left bundle branch block. Another potential value of the transaminase level would be in septal perforation after an acute infarction in which a secondary rise in enzyme level would be anticipated. This rise would result from the enzyme release from necrotic septal myocardial cells and also from central lobular necrosis of liver, reported in acute infarction complicated by septal perforation⁷.

This case is reported because of the double masking effect of left bundle branch block and acute alcoholic intoxication. The large amounts of enzyme lost from the hepatic cells in acute alcoholism can give a higher transaminase level than myocardial infarction.

The necessity for considering hepatocellular damage in the presence of acute infarction must be considered in the interpretation of transaminase levels.

SUMMARY

Myocardial infarction rarely elevates the SGOT activity above 300 units, whereas acute liver disease may result in a much higher level. In this case, the first rise of transaminase was due, at least in part, to the acute infarction; the secondary rise being due to the additional enzyme released during his delirium tremens. Because of the overlapping of the ranges, the extremely elevated enzyme titers should make one suspicious of additional factors such as liver damage.

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CONGENITAL ABNORMALITY OF THE GALLBLADDER

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A CASE REPORT

Congenital abnormalities of the gallbladder pose a challenging problem to both the radiologist and the surgeon, and even though this condition has been reported with increasing frequency, it still deserves mention in the literature due to its relative rarity and to the difficulties encountered in dealing with it.

According to the classification of abnormalities of the gallbladder presented by Gross in 1936¹ and Flannery and Caster in 1956,² the abnormality presented by our patient would be that of the double gallbladder of the "H" or ductular type.

CASE REPORT

This 44 year old white woman was originally seen in 1953 at which time she gave a three year history of indigestion. This indigestion consisted mainly of heartburn, belching of large quantities of gas, abdominal distention and constipation. She stated she had occasional epigastric pain which went through to the right side of her back, but was relatively mild and more noticeable on motion. She had had two attacks of sharp upper right quadrant pain which went through to the back, and these attacks were associated with nausea and vomiting. They were of brief duration and did not require medication. She stated that her only apparent food intolerance was to eggs,



Figure 1

and that her symptoms appeared regardless of the type of diet she followed. At the time of her first examination the abdominal findings were negative; no tenderness or masses could be demonstrated. A gastrointestinal x-ray series was normal. She also had had two cholecystograms which showed non-function. A repeat cholecystogram showed the gallbladder to have some function but there was a large calculus present. (See X-ray #1)

She was admitted to the Delaware Hospital on 1/14/54 where she remained until 1/22/54. History of present illness was essentially as given above. Family history was not important. Past history revealed no serious illnesses; she had had the usual

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childhood diseases and tonsillectomy and adenoidectomy in childhood. She had had a D&C in 1941 following a miscarriage and this has been her only pregnancy.

Physical examination at this time was essentially negative except for two unrelated findings: (1) a small lipoma or cyst of the left shoulder, and (2) a mild degree of tenderness in the upper right quadrant of the abdomen. Admission blood count, urinalysis and serology were entirely negative.

A cholecystectomy was done on 1/15/54. The gallbladder was small, thick-walled, chronically inflamed, and the mucosa when opened was granular in appearance. There was one stone 1.5 cm. in diameter. Small fibroids were palpated in the uterus. The appendix was not removed, as the cecum could not be delivered through the incision.

Pathological report showed grossly a gallbladder measuring 4x3 cm.; the wall was fibrotic and the mucosa pale green and granular. There was one pale yellow, translucent calculus measuring 1.5 cm. in diameter. A diagnosis of chronic calculus cholecystitis was made.

The patient made a relatively uneventful postoperative recovery and was discharged to her home on the 8th postoperative day.

She was seen periodically until 2/15/54 at which time the wound was well healed and she appeared to have made a good recovery from her surgery. During the next four years she complained of having frequent attacks of sudden violent discomfort in the upper portion of her scar which appeared without reason and were of short duration, and she felt that there was a bulge in the area. She could give no idea as to what produced this apparent spasm as it appeared to bear no relation to food or activity. Repeated examination disclosed no evidence of any weakness in the scar and no tender points along the scar. The second complaint which persisted through all this time was continuing indigestion. The patient gained about 30 pounds in weight but still was unable to get back to a full general diet. She felt that more foods pro-

duced symptoms than had done so prior to her surgery.

In 1957 her history was very suggestive of a peptic ulcer. A gastrointestinal x-ray series done at that time showed no abnormality except for a small diverticulum of the third portion of the duodenum and some evidence of spasm in the prepyloric area. She was given antispasmodic and alkaline tablets and seemed to do reasonably well.

She was readmitted to the Delaware Hospital on 1/14/59 for study, with an admission diagnosis of esophagitis and gastritis. The history at the time of this admission disclosed a two year story of substernal soreness which seemed to go around the rib cage on both sides anteriorly. This soreness was not related to meals or to exercise, but was noticed to be worse at night, particularly when she was lying on her right side. There was no nausea or vomiting associated with this. The patient felt that she had much more gas and much more food intolerance than she had prior to her previous gallbladder surgery.

Physical examination was not remarkable except for some persistent soreness and spasm in the upper part of the right abdomen.

Laboratory findings on this admission were essentially normal; hemoglobin was 88%, RBC 4,500,000, and WBC was within normal limits. Urinalysis was negative; fasting blood sugar 98 mgm%; serum amylase 190; blood cholesterol 296; bilirubin direct 0.10, and total 0.54, well within normal limits. An upper G.I. x-ray study was done. There was some question whether there was a small peptic ulcer in the esophagus. The diverticulum of the third portion of the duodenum was again noted, as was a very small hiatus hernia. Barium enema was reported negative except for an irritable colon. Chest x-ray was negative. Cholographin study was reported to show a finger-like projection measuring 6x1 cm. in the upper right quadrant, with several rounded shadows present, and a diagnosis of a dilated cystic duct stump with calculi was made. (See X-ray #2). An electrocardiogram was normal.

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Figure 2

With a preoperative diagnosis of gallstones and a dilated cystic duct stump, the patient was operated upon on 1/22/59. A long, oblique, subcostal incision was made and the rectus muscle on the right side divided across at about the site of the drainage scar in the previous incision. Massive adhesions were found from the liver edge down to the common duct, and a considerable time was taken in freeing this area. The entire scar of the liver bed of the removed gallbladder was followed down to the common duct area, and no evidence of any dilated cystic duct stump or stones was found. Continuing the dissection posteriorly, all of the adhesions were freed from the liver bed, and the duodenum was freed and retracted medially and downward. With this exposure the common duct was then seen and a cystic duct was found leading from it about 1 cm. below the site of the scar of the previous surgery. This was freed at its attachment to the common duct and then followed laterally for a distance of about 2 cm., when it appeared to go directly posteriorly to the posterior portion of the right lobe of the liver. When this area was exposed a dilated sac containing 5 or 6 green faceted stones was found; this was removed. The common duct was palpated but not opened; other structures in the area were noted to be within normal limits except for the many adhesions about them. A cigarette drain was inserted to the site of the cystic duct stump and the wound closed in layers. The patient left the operating room in good condition. It was felt at the time of the completion of this surgery that we were dealing with a second gallbladder which lay in the posterior portion of the

right lobe of the liver, rather than with a dilated cystic duct stump from the previous surgery.

The Pathology Department presented the following report: "Gross: Received in Zenker's solution a somewhat tubular structure measuring 2.2 cm. in length and 0.9 cm. in maximum diameter. On sectioning, the wall has a thickness of 2 mm. and the mucosa averages 1-2 mm. in thickness. Also received are 5 faceted, soft green stone averaging 0.8 cm. in diameter. Microscopic: Sections show a cystic space lined by columnar epithelium forming papillary projections into the lumen. The substantia propria is vascular and moderately infiltrated by chronic inflammatory cells. Muscular coats are thickened and the mucosal glands cut in cross-section are found deep to the muscle layer. The serosal surface is thickened and the vessels have thickened walls. One section shows two broad stalk-like projections into the lumen bordered by columnar cells and containing smooth muscle bundles in the loose connective tissue stroma. These structures are considered to be the spiral valve of Heister located in the neck of the gallbladder and the upper end of the cystic duct. In view of history and operative findings the structure submitted is consistent with chronic cholecystitis and duplicated gallbladder."

The patient's course in the hospital following this surgery was excellent. Drain was removed on the 4th day and the wound has gone on to excellent healing. The patient reports two interesting facts: first, that the sudden attacks of pain which she had in the previous incision have not recurred; the incision feels much more comfortable than it has at any time since her first surgery. Second, she has been able to increase her diet rapidly and food intolerance to this point has been relatively minor. She states that she feels a great deal better than she has at any time in the past six years. She has returned to full activity and is practically back to a full general diet.

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MAN AND HIS FOOD INTAKE

● The author points out in this article that there is no "weight control" brain center. The Western World as a whole indulges in over-eating through hereditary, environmental and psychologic influences. Harnessing will power is the only answer to the regulation of food intake based on energy requirements.

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Increasingly, the spotlight of scientific inquiry is placed on nutrition. Emphasis upon variants in fat metabolism has influenced both theory and experimental design in studies of cardiovascular disease. A supply of adequate protein is a well recognized major dietary need for millions of people. One-fourth of the residents of the Western World suffer from an excessive caloric intake. Such observations have led to further explorations on the biologic mechanisms controlling appetite, hunger, satiety and related aspects of why man eats what he eats. The results of the physiologists' probing of these matters is of concern to physicians who must advise patients regarding their day to day dietary habits and needs. Here is an effort to summarize what the physiologist has been up to, what he has noted that is useful to the practitioner.

Hunger has been defined as the disagreeable complex of sensations, including epigastric pangs, which result from a deficit in body nutrients.

Appetite is an affective state usually a pleasant sensation, defined as the desire for food. It has been described as a learned psychologic experience.¹

Satiety is the state of being filled beyond natural desire, in this instance with food.

Since healthy adult men and animals generally tend to maintain constant body weights over extensive periods of time, a physiologic regulation of food intake based on energy requirements has long been supposed. The mechanisms of such regulation are incompletely understood. Since there are marked variations in the day-to-day food intake of man, it is reasonable to assume that what is being regulated is the body's store (excesses or deficits) of nutritional elements.²

The nervous system influences food intake in several ways. The complex sensations of satiety, appetite and hunger are mediated by it. Cannon and Carlson demonstrated that gastric "hunger" contractions are cues for eating.³ The stimulation of oropharyngeal sensory receptors (tasting, chewing and swallowing food) tends to reduce food intake. Gastric distention induces an inhibition of the act of eating through reflexes. The neural role is further evident in the "feeding reflexes" wherein visual, auditory, olfactory, tactile, gustatory and enteroceptive reflexes influence food in-

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take. Clearly appetite and its consequence of eating is swayed by factors varying from pleasant odors to subtle seduction by the television screen. A psychiatric hypothesis is that much hyperphagia in humans is to serve emotional needs rather than nutritional demands.¹ Lesions in the ventromedial nucleus of the hypothalamus in animals bring about an increased food intake. Lesions in the lateral area at this level of the hypothalamus diminish food intake.

Brobeck⁴ observes that while there is no "weight control" brain center as such, weight is controlled indirectly by at least three mechanisms which are under physiologic direction: food intake, heat loss, and exercise. There is evidence that heat and certain metabolites influence food intake through the central nervous system. Metabolic influences on eating presumably act through the hypothalamus (inhibitory effects mediated by the ventromedial area). Hypoglycemia is associated with increased food intake. The role of glucose metabolism is further emphasized by the recent observation that glucagon (a pancreatic glycogenolytic factor) given parenterally diminishes hunger sensations, gastric contractions and food intake in human subjects.

Mayer⁵ has presented a "glucostatic" hypothesis which assumes that the rate of passage of glucose (or of ions associated with its transfer to cells) into "gluco-receptors" of the ventromedial hypothalamus affects feeding behavior. In support of this theory he and others studied differences in the glucose levels of arterial and venous blood (designated as Δ -glucose). Small Δ -glucose values were associated with hunger and hunger contractions, large Δ -glucose values were accompanied by the absence of evidence of hunger. The "glucostatic" hypothesis, while having attractive features, faces conflicting evidence.³ Some investigators find a poor correlation between gastric hunger contractions and blood glucose levels. Janowitz and Ivy⁶ reported that the hunger sensations in human subjects were unaltered by intravenous injection of glucose. Similarly in animals, glucose infusion to create hyperglycemia failed to depress food consumption.

That a genetic factor may dictate a persistent level of food consumption which exceeds the energy output is suggested by the identification of a strain of mice which are congenially prone to hyperglycemia and obesity. For these mice, inactivity plays a large role in their caloric surplus. This finding is of interest in considering the fact that in both adult man and animals living under reduced physical activity the regulation of food intake clearly tends to become less precise, as compared to its precision under living conditions requiring higher energy output by the subjects. Simply stated, as man reduces his activity, his appetite does not decrease in proportion to his actual caloric needs! A group of industrial workers whose physical activity was moderate were found to eat less than did excessively active or exceptionally inactive workers.

One must recognize that the regulatory mechanisms serving the majority of adult men and women can be negated by hereditary, environmental and psychologic influences. When both parents are obese, about 80 per cent of their children will have this trait. Psychologic sway is impressive in the abnormal hyperorexia associated with extreme obesity and the refusal of food in anorexia nervosa leading to marked cachexia. To the extent that the clinician can identify and control the various negating factors, will he succeed in the long term management of proper nutrition of his patients. While accepting a variety of influences on the desire to eat, the fact remains that food-taking is a motor act of skeletal muscles—voluntary muscles which are under the control of the will. Harnessing will-power remains the point of breakthrough in dietary therapy.

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STAPHYLOCOCCAL SEPTICEMIA

A REVIEW OF 30 CASES

● The high mortality rate of staphylococcal septicemia will be lowered only when the medical profession assumes a proper awareness of the problem. Cessation of indiscriminate antibiotic therapy is the most important factor in its prevention. Isolation of the infected patient with scrupulous aseptic and antiseptic practices should be routine.

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AND E. G. SCOTT, M.T.**

In previous issues of this journal, 1-4, the authors have reported on the epidemiology, susceptibility to antibiotics and treatment of infections due to staphylococci. Because of the high mortality of staphylococcal septicemia, even with newer methods of therapy, the authors believe that any experience in the treatment of this disease is worth recording, and offer their own recent experiences at the Delaware Hospital as a case in point.

At the Delaware Hospital during the period between 1950 and 1955, twelve cases of staphylococcal septicemia were reported³ with a 50 per cent mortality rate. In the three subsequent years (1956, 1957, 1958), thirty patients suffering 32 episodes of septicemia due to coagulase-positive *Staphylococcus aureus* have been studied at this hospital. Obviously, there has been a significant increase in the number of cases of septicemia during this period, which does not necessarily reflect an increase in the virulence or infectivity of the local strains of staphylococci. In fact, there has *not* been a significant increase in the number of patients admitted to the hospital with staphylococcal blood stream infection. Subsequent figures will demonstrate that the major increase has been in *nosocomial in-*

fections, sixty per cent of the cases being considered "hospital infections."

All of the patients included in this study were indisputable cases of septicemia; and suspected case of transient bacteremia was not included. All 32 episodes were characterized by acute illness in association with a positive blood culture. In 40 per cent of the cases, the blood culture was positive more than one time. Of two patients studied in 1956, each suffered two bouts of staphylococcal septicemia, separated by at least seven months. One patient also experienced a gram-negative rod septicemia in the interim. Also in this study are four children with staphylococcal septicemia associated with acute osteomyelitis. In these cases the organisms isolated were antibiotic—sensitive and the results of treatment were uniformly good. For the sake of completeness they have been included in this study. However, since this is a different disease with generally favorable outcome, a corrected mortality rate has been applied, by excluding these four cases in the calculation.

Table I lists the number of cases per year and also indicates the number of nosocomial infections. In 1956, fifteen episodes (13 pts.) of septicemia resulted in four deaths. Excluding the four children with

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TABLE I

STAPHYLOCOCCUS SEPTICEMIA — 1956-1958

YEAR	HOSPITAL INFECTION	NO. HOSPITAL INFECTION	TOTAL	DEATHS	MORTALITY* PER CENT
1956	7	8	15 (13 pts.)	4	36.4
1957	5	2	7	2	33.3
1958	8	2	10	7	70.0
TOTAL 3 YEAR PERIOD	20	12	32 (30 pts.)	13	48.2

*CORRECTED — LESS CASES OF ACUTE OSTEOMYELITIS — SEE TEXT

acute osteomyelitis, the corrected mortality is 36.4 per cent. In 1957, only seven cases of septicemia occurred, with a corrected mortality of 33.3 per cent. The final year of the study reveals an alarming increase in mortality—70 per cent—which represents seven deaths in ten patients. This increase in mortality appears to be related to the increase in nosocomial infections in the Delaware Hospital during 1958. In this three year period, 20 patients probably acquired staphylococcal infection and subsequent septicemia from the hospital environment. Eleven of these patients died, a mortality rate of 55 per cent. Twelve patients were admitted to the hospital with staphylococcal blood stream infection, and of these, two died (16.6 per cent mortality). It is of interest that both patients who died of infection apparently acquired outside of the hospital environment were shown at autopsy to have staphylococcal endocarditis, a disease which has an exceptionally high mortality.⁵ The corrected mortality for the three period of this survey (48.2 per cent) is essentially unchanged from that of the previous five years (50 per cent). However, the 70 per cent mortality in 1958 is the highest we have experienced.

The thirty patients included in this study study ranged in age from 7 months to 84 years. All but two of the children with septicemia had acute osteomyelitis. One, a seven month old child, died with staphylococcal pneumonia complicating a tracheotomy. Staphylococcal septicemia with acute lymphoma was fatal to a 15 year old boy. A 39 year old man with psoriatic arthritis died of staphylococcal endocarditis. Of the remaining ten fatalities, all were over 50 years of age and nine were over 70 years of age. Staphylococcal septicemia obviously carries a high mortality in the older age groups; in fact, there were only two patients over the age of 50 among the survivors.

Table II lists the underlying or contributing factors present in these 30 patients with staphylococcal septicemia. From the total number of ancillary problems, it can be seen that some patients had more than one complication, which did not, of themselves, increase the mortality. Operative reduction of a fractured hip was the surgical procedure most frequently complicated by a staphylococcal septicemia, and this

TABLE II

STAPHYLOCOCCAL SEPTICEMIA

UNDERLYING AND CONTRIBUTING FACTORS — 30 PATIENTS

DISEASE	NO. OF PATIENTS	DISEASE	NO. OF PATIENTS
Wound infection	6	Paraplegia	2
Acute osteomyelitis	6	Pyarthrosis	2
Steroid therapy	5	Diabetes mellitus	2
Fractured hip	4	Dermatitis	2
Decubitis ulcer	3	Thyrotoxicosis	2
Furunculosis	3	Lymphoma	1
Endocarditis	3	Leukemia	1
Pneumonia	3		

group suffered a high mortality rate. The age of the patient undergoing hip surgery accounts for this grave prognosis, all of these patients being over 70 years. On the contrary, acute osteomyelitis with staphylococcal septicemia carried a good prognosis, primarily because of the young age group involved. Three of the six patients with septicemia complicating postoperative wound infection did well, because the infection was amenable to incision and drainage. The three in whom surgical drainage was not carried out ended fatally, despite heroic antibiotic therapy. It is known that patients receiving steroid therapy are unusually susceptible to infections caused by staphylococci. It has been reported that cessation or reduction of steroid therapy is sometimes necessary to effect a cure of the bacterial infection.⁶ Three of the five patients in this group died while receiving steroid therapy; however, the disease being treated with steroid therapy could be expected to result in a fatal outcome.

It is apparent that patients with chronic illnesses who are exposed to a hospital environment for any length of time are good candidates for acquiring infections due to antibiotic-resistant hospital strains of viru-

lent staphylococci. The lowered resistance associated with steroid therapy, metabolic diseases, blood dyscrasias, immobility, poor respiratory exchange and extensive dermatitis, contributes in the initiation of this nosocomial infection.

LABORATORY DATA

All of the patients reported in this study had at least a single isolation of a coagulase-positive *Staphylococcus aureus* from the blood stream. In 19 patients a similar organism was also isolated from another site. These organisms were identified colonially on blood agar and morphologically by gram-stain. Sensitivity tests were performed by the disc plate technique, and in a number of cases by the test-tube dilution method. Our experience with this microorganism has indicated that there is a consistent correlation between disc and test tube sensitivities. Bacteriophage typing was not available at the time of this study.

Table III shows the antibiotic susceptibility pattern of the organisms isolated. It will be noted that the hospital strains most frequently recovered were resistant to penicillin, tetracycline and, in eight instances, to erythromycin. The organisms isolated

TABLE III
STAPHYLOCOCCAL SEPTICEMIA
ANTIBIOTIC SUSCEPTIBILITY OF STAPHYLOCOCCI (DISC TECHNIQUE*)

Organisms from Hospital Infections		Organisms from Non-Hospital Infections	
3	Sensitive All antibiotics	4	
1	Penicillin Resistant	5	
6	Penicillin { Tetracycline {	3	Resistant
8	Penicillin { Tetracycline { Erythromycin }		Resistant
1	Penicillin { Tetracycline { Chloramphenicol }		Resistant
1	Penicillin { Tetracycline { Erythromycin { Chloramphenicol }		Resistant
20	TOTAL	12	

*Penicillin — 2 units

Tetracycline — 5 mgm

Erythromycin — 2 mgm

Chloramphenicol — 5 mgm

from the 12 cases already infected on admission showed a lower order of resistance.

Leukocytosis was a consistent finding in these patients. The initial count in 31 episodes of staphylococcal septicemia was above ten thousand in 30 instances, twenty to thirty thousand in seven patients and over thirty thousand were patients. All of the differential counts showed a marked shift to the left. The leukocyte count of the patient with leukemia is not included for obvious reasons.

Five of the 13 fatalities were uremic during the course of illness. In three of these, there was urinary tract disease sufficient to account for the azotemia. In the remain-

ing two, staphylococcal renal abscesses were suspected clinically and found to be present at post mortem examination. Urinalyses were frequently abnormal in these critically ill patients, but could not be correlated with specific renal damage by the staphylococcus. Anemia was a common finding, resulting from the septicemia or the severe underlying disease.

TREATMENT

The results of therapy of staphylococcal infections are difficult to evaluate. This is particularly true when considering infections of the skin, wounds and other superficial tissues. Staphylococcal septicemia allows a more accurate assessment of ther-

TABLE IV
STAPHYLOCOCCAL SEPTICEMIA — RESULTS OF THERAPY

	<u>Good</u>	<u>Poor</u>	<u>Indeterminate</u>
Penicillin	1	4	2
Chloramphenicol	3	5	—
Tetracycline	—	6	—
Novobiocin	1	1	—
Neomycin	3	—	—
Vancomycin	3	—	—
Kanamycin	—	—	1
Ristocetin	—	1	—
Penicillin and Streptomycin	—	3	—
Penicillin and Chloramphenicol	2	—	—

apy, because one can be more certain of the significance of organisms isolated from the blood stream. In tabulating the outcome of treatment we have used the classification *good*, *poor* and *indeterminate*. This last grouping is necessary because it was impossible to determine the effectiveness of the antibiotic course in a few instances.

A number of physicians were responsible for the care of these patients, accounting

for the variety of antibiotic regimens. Twenty different antibiotics or combinations were used in 53 courses of therapy. Unfortunately, this diminishes the value of the study as far as evaluation of antibiotics is concerned. As a result of the incidence of nosocomial infections, the Hospital Committee on Infections has become interested in the treatment of patients with severe staphylococcal infections and established

TABLE V
RESULTS OF THERAPY — CONTINUED

	<u>Good</u>	<u>Poor</u>	<u>Indeterminate</u>
Penicillin and Novobiocin	1	—	—
Penicillin and Sulfonamides	—	1	—
Penicillin and Tetracyclines	—	1	—
Chloramphenicol and Novobiocin	2	4	—
Chloramphenicol and Erythromycin	2	—	1
Chloramphenicol and Tetracycline	—	—	1
Erythromycin and Sulfonamides	—	1	—
Pen and Tetra and Sulfa	—	1	—
Pen and Chloro and Strep	—	1	—
Pen and Sulfa and Tetra and Strep	—	—	1
TOTAL	18	29	6

standards of therapy which should aid in assessing treatment results in the future.

A *good* result is defined as clinical improvement in the patient (suggesting eradication of the blood stream infection), frequently, but not necessarily confirmed by negative blood culture. Several of the patients initially considered as *good* results, subsequently relapsed and died. Conversely, a number of the patients with *poor* results were eventually treated with a different antibiotic (or combination), with recovery. Tables IV and V indicate that from 53 courses of therapy, *good* results were obtained 18 times, *poor* results 29 times and *indeterminate* results in six instances. The correlation between the *in vitro* sensitivity of the organism and the *in vivo* response to the antibiotic was excellent. In all of the 18 *good* responses, the organism was sensitive to the antibiotic used. As might be expected, a number of failures occurred when an antibiotic considered to be appropriate was given, but where the severity of illness, poor resistance of the patient and improper dosage or route of administration mitigated against a successful outcome. It should be mentioned that in five cases of septicemia in which antibiotics had failed, cures were effected by surgical drainage of amenable foci of infection. This therapeutic maneuver should certainly not be overlooked.

DISCUSSION

The treatment of staphylococcal septicemia in this hospital needs immediate reevaluation. The increasing incidence of nosocomial infections has increased the number of septicemias due to antibiotic-resistant organisms and a higher mortality has resulted from these infections. Consequently, when septicemia due to a staphylococcus is suspected in a hospitalized patient, therapy should be instituted immediately. Intravenous vancomycin should be given in doses of 1-2 grams per day; if the intravenous route is not feasible, then neomycin or kanamycin may be given intramuscularly. Both of the latter drugs are toxic to the eighth nerve and should not be used in the presence of impaired renal function, unless the renal damage is of it-

self a result of the staphylococcus infection. Chloramphenicol and novobiocin should not be used individually in the treatment of staphylococcal septicemia. When used together, or singly in combination with erythromycin, good therapeutic results may be expected. However, our experience with these essentially bacteriostatic agents in the treatment of severe staphylococcal infection has been disappointing. It should be emphasized that if an organism is susceptible to penicillin, this drug is certainly the antibiotic of choice.

A more indirect but perhaps more promising approach to the control of staphylococcal septicemia is through the control of nosocomial infections. The important measures of a staphylococcus control program are as follows:

1. Isolation of the infected patient.
2. Protection of the highly susceptible patient.
3. Scrupulous aseptic and antiseptic practices.
4. Cessation of indiscriminate and prophylactic antibiotic therapy.
5. Awareness of the problem by the medical profession.

These measures combined with prompt and adequate treatment of the infected patient should bring about a reduction in mortality from staphylococcal septicemia.

SUMMARY

A clinical review of 32 episodes of staphylococcal septicemia in 30 patients observed over the past three years is presented. The results of treatment are tabulated and some general statements are made concerning the control and treatment of severe staphylococcal infection.

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MASSIVE EXTRAMEDULLARY

MYELOMATOSIS OF THE LIVER:

A CASE REPORT WITH REVIEW OF PATHOLOGICAL FINDINGS

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The first authentic report of extramedullary plasma cell lesions associated with multiple myeloma appeared in 1892, according to Hayes¹. Sporadic reports of such lesions continued to appear in the literature, but in general, extra-osseous manifestations of the disease were considered to be of rare occurrence, except by direct extension from involved bone. Up to the end of 1952 Hayes et al¹ were able to gather 182 cases from the world literature. Their tabulations revealed instances of myelomatosis in practically every organ and region of the body. By far the greatest number of lesions were found in the liver, spleen and lymph nodes, with less frequent occurrences in the kidney, heart and lung. These same authors studied in detail 38 autopsied cases of multiple myeloma at the Mayo Clinic. Their findings, plus the earlier results of a similar study at the Mt. Sinai Hospital in New York², indicated that extra-osseous myelomatosis was the rule rather than the exception in multiple myeloma. Both groups re-

ported extramedullary lesions in approximately 70% of the cases studied. The present case is reported because of the extensiveness of the liver involvement.

CASE REPORT

A 56 year old white woman was admitted to the Delaware Hospital March 20, 1959 in an unconscious state. Past history, obtained from relatives, revealed that she had sought treatment for obesity from many physicians through the years. Her weight usually averaged 250 to 260 pounds but recently there had been a spontaneous loss of 20 to 30 pounds. For approximately five years she had complained of shortness of breath, tiredness and joint pains described as "rotating" in type. Three days before admission she was treated by a physician for epistaxis which had occurred for the first time. At this time she also complained of increased joint pains and an undescribed type of pain in the region of the heart. Following treatment she was advised to remain

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at bed rest. The day before admission epistaxis recurred and at this time nasal packing was required to control the bleeding. She was able to move all extremities well, obey commands and take food normally. It was thought, however, that she was slightly incoherent in her conversation. On the day of admission she was found to be incontinent of urine and semi-stuporous. By the time of admission the latter state had progressed to one of deep unconsciousness.

Physical examination: Respirations were 26 per minute and labored, BP 140/90, Pulse 104-150 per minute and regular. The pupils were dilated and responded minimally to light. Bilateral papilledema and slight retinal hemorrhages and exudate were noted on funduscopic examination. The deep reflexes were generally hypoactive and the corneal reflex was reported as slight to absent. A spinal puncture revealed an opening pressure of 370 mm. of water; the closing pressure was 350 mm. The tap was thought to be slightly traumatic. Several large ecchymotic areas were present in the abdominal region measuring 10-15 cm. in diameter. Smaller ecchymotic areas were located on the extremities but only a few petechiae. The Rumpel-Leede test was negative.

Laboratory studies: Hemoglobin 8.5 gm%; RBC 2.7 M; reticulocytes 1.2%, WBC 11,200; polys 71%, bands 16, lymphs 9, monocytes 3; capillary platelets 150,000. Urinalysis: sp. gr. 1.012, albumin 1+, sugar negative, acetone 2+, RBC 4-6 hpf, WBC 4-8 hpf. BUN 32 mgm.%, CO₂ 7 millimoles liter; prothrombin time 23% of normal. Spinal fluid: 7 WBC cumm, moderate number of RBC's, Pandy 1+.

Hospital course: The patient was seen by neurosurgical and hematological consultants, but expired within four hours before any definite treatment was started. A supravital preparation of finger blood by the hematologist showed marked rouleaux formation. Occasional normoblasts and plasma cells were seen. The bleeding tendency was thought to be due to a mixed deficiency of clotting factors. Clinically, a diagnosis of cerebrovascular accident was made.

Post mortem examination: The autopsy was performed approximately 14 hours after death. Significant findings included the ecchymotic areas previously described. The nares and oropharynx contained dried blood. There was 300 cc. of grossly bloody fluid in the stomach. The mucosa was intact. The myocardium of the interventricular septum appeared grossly to be deeply congested but on section there was actual interstitial hemorrhage. The heart was enlarged to 550 grams and the coronary vessels were moderately sclerotic. Although there was no evidence of injury to the scalp or skull, a subdural hematoma was present in the right parietal area. The brain weighed 1400 grams and appeared edematous and congested. The cortex underlying the hematoma was slightly depressed. The lungs showed congestion and edema. The kidneys were slightly swollen and appeared pale. Examination of the vertebral bodies revealed no evidence of tumor formation. The bony structure was somewhat osteoporotic and the marrow more pale than usual. Marrow smears were made.

The liver was markedly enlarged, extending 11 cm. below the right costal margin, 14 cm. below the xyphoid process and 8 cm. below the left costal margin. It measured 38x12 cm. and weighed 5300 grams (the largest liver in the articles reviewed weighed 3300 grams). The parenchyma had a mottled red-yellow appearance with almost complete loss of the usual lobular markings. Scattered throughout the parenchyma were dark brownish-black nodules measuring up to 5-10 mm. in diameter. The spleen weighed 550 grams, was firm, had a relatively dry pulp and contained no visible follicles.

Microscopic findings: The normal architecture of the liver was diffusely altered due to massive infiltration of the sinusoids by foreign cells, many of which appeared to be well-differentiated plasma cells. Every lobule was infiltrated. (Fig. 1) The infiltrate extended from the portal area to the central veins. The sinusoids were so distended by the foreign cells that practically every liver cord was compressed to some

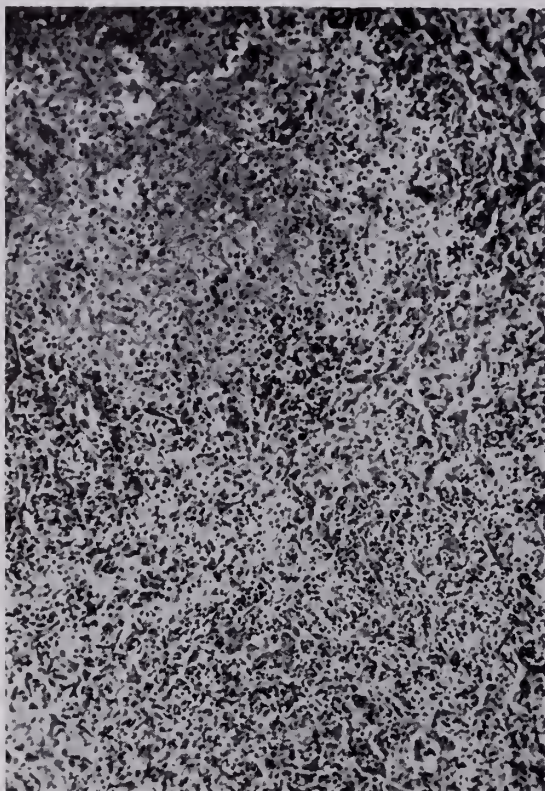


Fig. 1. Typically infiltrated liver parenchyma. Area destruction left upper corner. 75X H&E

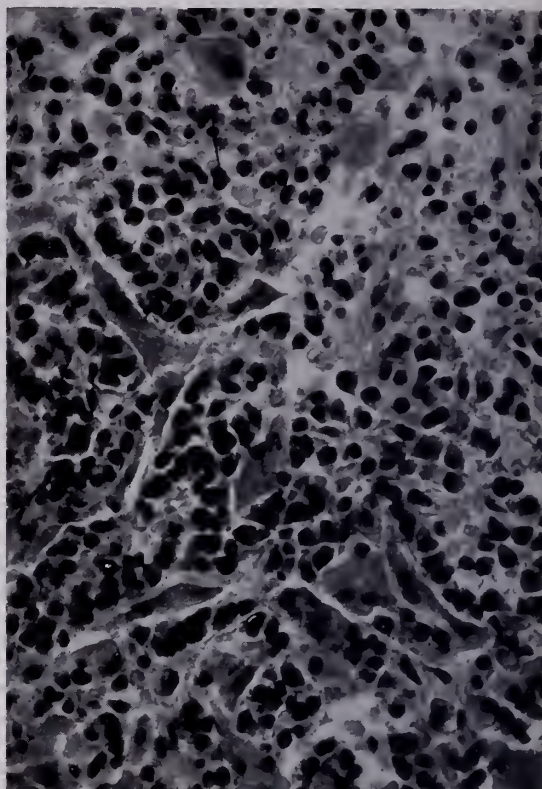


Fig. 2. Myeloma cells densely infiltrating liver sinusoids. Trichrome stain. 325X

degree. (Fig. 2 and 3) Most lobules contained areas of extreme liver cell atrophy and foci where the liver cells had been completely replaced by the myelomatous cells. The dark nodules seen grossly proved to be true plasmacytomas, being composed purely of neoplastic plasma cells. The central portions of these nodules were hemorrhagic, probably accounting for their dark appearance grossly.

The cells in the sinusoids appeared to lie free in the lumina. (Fig. 4) In the less densely involved sinusoids the cells had an abundant eosinophilic cytoplasm without vacuoles or granules. The nucleus was usually round, eccentrically located and contained prominent chromatin clumps located peripherally. This type of cell was also seen in the nodules. However, in the nodules there was definite pleomorphism. Cells varied in size and multinucleated forms containing 2-8 nuclei were rather frequent. (Fig. 5) Mitoses were rare but individual bizarre cells were seen.

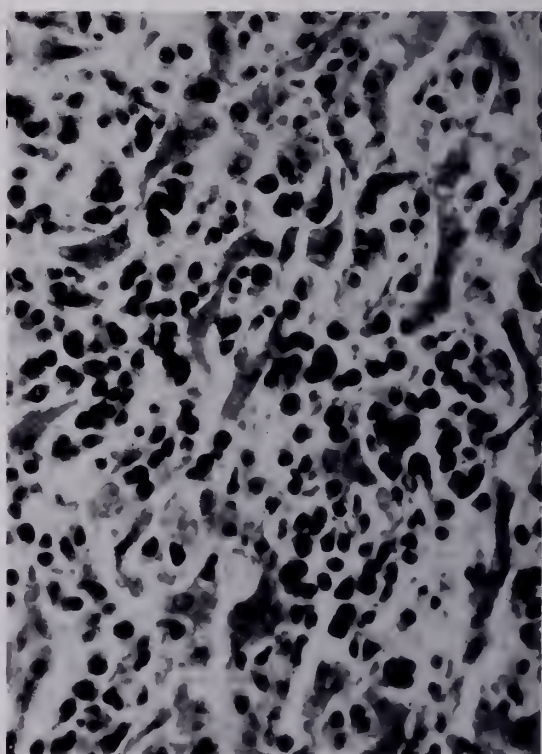


Fig. 3. Portion of liver lobule showing atrophy and separation of liver cells. H&E 325X

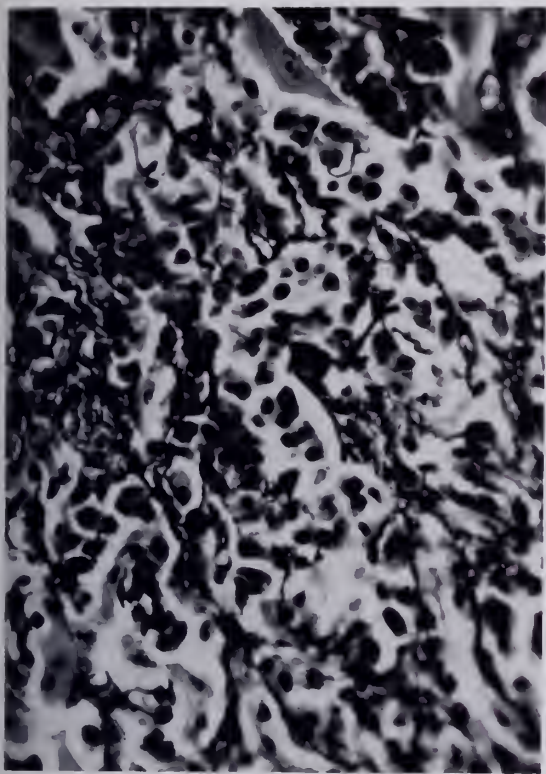


Fig. 4. Liver sinusoids. Myeloma cells free in the lumina. Reticulin stain. 325X

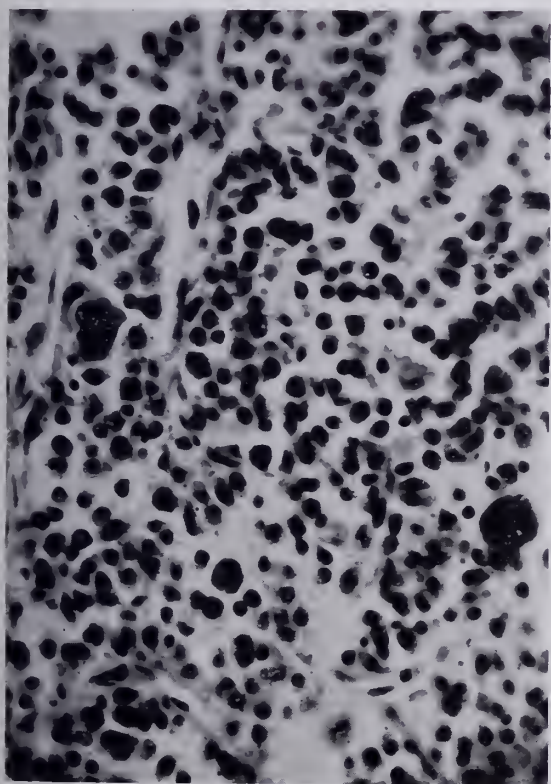


Fig. 5. Myelomatous nodule, liver. Note variation in cell size and multi-nucleated forms. H&E 325X

The splenic parenchyma was almost totally replaced by cells similar to those described in the liver. There were no normal lymphoid follicles. The only remaining lymphocytes were present as cuffs about some of the arterioles.

The bone marrow smears made at the time of the autopsy were disappointing. Due to the extreme post mortem changes, it was impossible to do differential cell counts. One received the general impression that the smear was consistent with a leukosis and that some of the cells resembled plasma cells; but that was as much as could be determined.

DISCUSSION

The immediate cause of death was attributed to the subdural hematoma and cerebral edema. Because of the patient's rapid exodus there is little clinical information to correlate with the post mortem findings. In view of the diffuse myelomatosis of the liver and spleen, multiple myeloma is the most likely diagnosis. Hemorrhagic phenomena are relatively common in this disease, particularly in the terminal stages⁶. The tendency for marked rouleaux formation to occur is also frequently cited as a possible clue to the disease. The presence of a few plasma cells in the peripheral blood, possibly insignificant by itself, is of importance considering the myelomatosis found in the viscera. The low prothrombin time is readily explained by the extensive damage to the liver and no doubt contributed to the bleeding tendency. Also, a low reticulocyte count with a moderately severe anemia is consistent with a marrow unable to respond because of replacement by myeloma. The fact that tumor nodules were not seen grossly in the vertebral bones does not make the diagnosis of multiple myeloma less tenable, for it is well documented that the disease may occur as a diffuse myelomatosis in the marrow. It is in such cases that extensive myelomatosis of the viscera is most likely to be present³.

CRITERIA FOR THE DIAGNOSIS OF EXTRAMEDULLARY MYELOMATOSIS

The diagnosis of extramedullary myelo-

matosis depends on searching for, and finding, collections of identifiable myeloma cells. Myeloma cells are considered to be abnormal or immature plasma cells. Most of the recent writers on the subject believe that these cells probably originate from reticulum cells¹. Typically, in tissue sections, myeloma cells are larger than plasma cells. They have an abundant cytoplasm which is usually eosinophilic, but which may be slightly basophilic. The more immature forms may contain vacuoles. In well differentiated cells the nucleus is eccentric and has coarse peripheral clumps of chromatin, as does the normal plasma cell. Immature cells may have the nucleus located centrally and have either a coarse or a fine chromatin pattern. Both types of nuclei contain a nucleolus which is often very large. Cells with the fine chromatin pattern and a large nucleolus may closely resemble reticulum cells¹. A small cell variant of the myeloma cell has been described². This cell is about half the size of the usual myeloma cell, has a scanty cytoplasm and resembles a lymphocyte. Its nuclear characteristics, however, are similar to the larger cell. The large cell type is usually the predominant abnormal cell in extramedullary lesions; but both cell types are often present in the same lesion and occasionally the small cell type is the predominant one. In most lesions cells identical with normal plasma cells are also seen. Multinucleated cells are usually present, particularly in the nodules. They commonly contain 3 to 4 nuclei but numbers up to 20 have been described. Mitotic figures are not numerous in the usual case but may be numerous in unusually malignant forms of the disease.

When the visceral involvement is extensive, as in the case presented, there is no difficulty in making the diagnosis. With minimal lesions the difficulty may be considerable. This has been cited as one reason the diagnosis of myelomatosis has not been made more frequently in the past². Small collections of myeloma cells have to be differentiated from collections of normal plasma cells which may be present in the tissues in response to various inflammatory processes. Collections of plasma cells have

also been described in the lymph nodes and in association with malignant tumors. Also adding to the difficulty of differentiating normal from abnormal cells is the fact that post mortem changes and poor fixation often obscure the finer cytological details. When this happens, special stains such as Giemsa's and methyl-green-pyronin may be used to aid in demonstrating nucleoli. By comparing the visceral cells with myelomatous cells in the marrow, similarities may become apparent which enable their establishment as myeloma cells. This is a valid method, since the marrow cells undergo the same postmortem changes.

PATTERN OF VISCERAL INVOLVEMENT

TABLE I
INCIDENCE OF ORGAN INVOLVEMENT*

Organ	Incidence in 68 cases	Percentage
Spleen	41	60
Lymph nodes	32	50
Liver	24	35
Kidneys	5	7
Lung	3	5
Other organs	Each less than 3	Each less than 2%

*Compiled from references 1 and 2.

Table I shows the frequency with which the various organs were involved in the two reports previously mentioned^{1,2}. In over half the cases more than one organ was involved. The myelomatous lesions were concentrated in organs which are a part of the extramedullary hemopoietic system. In many instances the liver, spleen and lymph nodes were simultaneously involved, though not necessarily to the same degree. The lymph nodes and spleen frequently were infiltrated when the liver was not involved. The liver was never the only organ involved². Most of the positive lymph nodes were obtained from the various retro-peritoneal chains, but as a rule cervical and axillary nodes were not available for examination. In general, the incidence of positive nodes was found to be directly proportional to the number of nodes examined.

GROSS PATHOLOGY

There is a tendency for the extramedullary lesion to form nodules (plasmacytomas) similar to those found in the bone marrow¹. Such nodules may be seen grossly in the liver and occasionally in the spleen. Although usually multiple, sometimes there is only a single visceral plasmacytoma. The nodules vary in size from 1 mm. to 2mm. up to 10 mm. in diameter, are gray or white and have a firm consistency. More often the plasmacytomas are not of sufficient size to be visible grossly. In the absence of gross nodules, irregular grayish streaking with obscurity of the lobular architecture is sometimes seen in the liver. The usual myelomatous liver is of normal weight or only moderately enlarged. The largest liver reported in the review articles weighed 3300 grams².

Enlargement of the spleen was a common finding with myelomatosis of that organ. All spleens over 500 grams were diffusely infiltrated. Some moderately enlarged spleens, however, were not involved, while others of normal weight were³. More significant than enlargement was the presence of a homogeneous cut surface, grayish areas, increased consistency and loss of follicular markings. Myelomatosis of the spleen was more often of a diffuse type⁴. Gross nodules were not commonly seen.

Positive lymph nodes were usually moderately enlarged. The larger nodes were described as fleshy, and extensively involved nodes bore some resemblance to the nodes seen in lymphomas. The nodes were usually discrete and firm. Entirely normal-appearing nodes were occasionally positive for myeloma cells.

Although the preceding gross signs of myelomatosis are helpful when present, it should be emphasized that in approximately 50% of the cases there were no gross changes suggesting that the viscera were involved.

MICROSCOPIC PATHOLOGY

The most common finding in the liver was the presence of myeloma cells in the sinusoids. These were most often concen-

trated in the mid-zone or in the central portion of the liver lobules, a distribution similar to that seen in myelogenous leukemia. With more advanced disease, the sinusoids become distended and myelomatous nodules are formed. Occasionally, the infiltrate is limited to the periportal areas. The microscopic pattern in the lymph nodes and spleen are somewhat similar. When the lesions are minimal, myeloma cells appear in the medullary portion of the nodes or in the sinusoids of the spleen while the remainder of the organ retains its normal lymphoid structure. With progression of the disease, changes from partial to complete replacement of the parenchyma occur. The microscopic features of myeloma cells were described previously.

PATHOGENESIS OF MYELOMATOSIS

Recent authors favor the theory that extramedullary lesions develop primarily in the visceral organs from reticulum cells located in them. Advocates of this concept maintain that multiple myeloma is a generalized disease of the entire hemopoietic system and not only the intramedullary portion⁵. Potential cells in the viscera may be stimulated to produce myeloma cells by the same stimulus that produces them in the marrow.

ACKNOWLEDGMENTS

We wish to thank Drs. Edward A. Gall of the University of Cincinnati, I. N. Dubin of Women's Medical College of Pennsylvania, R. Philip Custer, Presbyterian Hospital, Philadelphia, and the Armed Forces Institute of Pathology for their help and interest in reviewing slides from this case. All confirmed the diagnosis.

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IN BRIEF . . .

Awards

The Department of Physical Medicine and Rehabilitation of the Eugene du Pont Memorial Hospital, Wilmington, is the recipient of a \$9,500 grant awarded by the Easter Seal Research Foundation toward research for perfecting a lightweight mechanical hand to assist persons crippled by paralysis. Chief investigator is Arthur J. Heather, M.D., medical director of the Department of Physical Medicine and Rehabilitation, who has already developed a model of the improved hand to increase the number of activities a person with hand paralysis can manage unassisted. According to Dr. Heather, the hand is hydraulically operated. By using it, a patient can shave, feed himself, use the telephone, write and carry out numerous activities that otherwise would be impossible. The Easter Seal Research Foundation grant will support research for nine months to perfect the present model and build three additional models for field test purposes.

Dr. Heather reports that another recent grant of \$8100 has also been awarded his department by the Delaware Heart Association for the development of an impedance plethysmograph to measure blood flow by changes in electrical resistance of the skin. The Department of Physical Medicine and Rehabilitation has already built a prototype which it has been using on patients in connection with its work with the space research laboratory.

New High

Open Doors, in their annual survey on foreign physicians, showed a new high of 8,392 doctors from 91 countries in training here this year—an increase of 10% over last year and 65% over five years ago. The Far East again sent the largest number, with the Middle East showing the greatest increase—25% more doctors than last year.

New Low

The 17½% reduction in the price of Lysine Monohydrochloride announced by Merck & Co. proves what is possible in the drug field when the research and marketing are paid for. As this is their second reduction in 6 months, this brings the total to 37.5%.

Noises

Dr. Lemuel C. McGee of Wilmington was quoted in *Industrial Medicine and Surgery*, on the decibel value and frequency ranges of noises which affect the hearing. In his address to the Congress of Industrial Health recently, he stated that big city noises such as trucks, buses and air hammers carry no threat and that the only noise that might seriously affect the ears is a high-frequency kind made by metal rubbing on metal at from 90 to 110 decibels.

Dr. McGee, Medical Director of the Hercules Powder Co., was recently presented with the Knudsen Award at the Annual Meeting of the Industrial Association in Chicago, for his outstanding contribution in the field of industrial medicine. The Knudsen Award was established to increase the recognition of the importance of medical programs in industry and to promote the human touch in the medical care of workers.

PRESIDENT'S PAGE

A. R. SHANDS, JR., M.D.

With the acceptance of Dr. Dean W. Roberts to an invitation to participate in the 1959 Annual Meeting's Seminar on Aging, the scientific part of the program is completed. We are most fortunate in being able to have an unusually able and well qualified panel of speakers. In addition to Dr. Roberts, Past Executive Director of the Joint Committee on the Aged and now Executive Director of The National Society for Crippled Children and Adults, we shall have Dr. Louis M. Orr, President of the American Medical Association, Dr. Theodore G. Klumpp, of the A.M.A.'s Committee on Aging, Dr. Edward L. Bortz, Past President of the American Medical Association and a member of the Committee on Aging, and Dr. Ewald W. Busse, Professor of Psychiatry and Chairman of the Committee on Gerontology of the Duke University School of Medicine.

At the Annual Meeting on October 15, our Committee on Aging will report the results of a survey it is now sponsoring to determine the present and future medical needs of the state's aged population. Within the next year or two, data from the recently created Delaware State Citizens' Council on Aging will become available to supplement the Society's survey. This new state agency will be responsible for Delaware's participation in the January, 1961, White House Conference on Aging, and for developing ways and means of pinpointing and solving many medical and social problems of our older citizens. It carried the Society's endorsement, and is in existence largely through the efforts of Dr. Clarence J. Prickett, Chairman of our Committee on Aging. The Council's plans call for participation by physicians on the community level.

Most of us expect the survey of medical facilities for the aged in Delaware to indicate a need for more chronic care beds and/or programs in the foreseeable future. The implications, of course, are greater simply than those of bricks and mortar, should the expectation hold up. We shall

*President,
Medical Society
of Delaware*



be faced, among other things, with the necessity for staffing new facilities and increasing the utilization of our existing facilities.

Dr. Frank G. Dickinson, recently-retired Director of the A.M.A.'s Bureau of Medical Economic Research, expects a "younging" of the population to follow the present trend toward an increasingly older population. He feels that this will be a natural result of the tremendous birth rate since World War II. What we are now faced with apparently is a first wave of aging to be followed in a generation by considerably larger one.

A recent survey by Wayne University of Greater Detroit's senior population is most significant; it has disclosed that nearly two out of five people over sixty-five feel that "the Government should do something." Not unnaturally, the United States Government has felt an obligation to consider these people's demands, although it does not appear that the pressure is particularly heavy for new legislation during the present session of Congress. Certainly the pressure to do something will increase during the years to come.

We have been given relatively little time to provide for our infirm aged, whose problems are at least partially attributable to the rapid progress of twentieth century medicine. In our traditional roles as friends of the sick and as guardians of the future of our profession, I earnestly hope that when you are called on you will actively assist and enthusiastically cooperate with those who are attempting to attack and solve this problem.

+ Editorials +

"DOCTOR T"—

In May 1958, Dr. Tarumianz was honored by the Mental Health Association for forty years of public service to the State of Delaware. More recently a hospital building was named in his honor. These are but small tokens of appreciation and respect for a man who is doing a job so well that there is a tendency to take him for granted.

We are proud of you, Doctor T, and thank you for your part in giving Delaware a good medical reputation at home and abroad.

CONSULTATION OR REFERRAL —

*Procedures in Consultation and Referral** was chosen as the subject for the annual discourse presented to the Massachusetts Medical Society by Dr. Henry F. Howe because he believed that increased courtesy in the conduct of consultations and referrals might, by improving the care of patients, win back some of the respect lost by the medical profession in this generation.

Dr. Howe sent a questionnaire, admittedly clumsy, to 70 fellow physicians, equally divided between general practitioners and specialists; the fact that there were 58 responses is either a tribute to Dr. Howe, an index of the importance of the problem, or both.

The details uncovered in this study can be found in the original article which should be read by specialists as well as non-specialists. Several areas of general misunderstanding, however, were brought to light and these were:

A confusion between the terms "consultation" and "referral". In the former, the attending physician desires the opinion of the consultant regarding the diagnosis and treatment of his patient; this may be accomplished at a single visit although follow-up sessions may be mutually desirable. A "referral" on the other hand means that the patient has been turned over completely to the care of the specialist by the attending physician who no longer has any official status in the case until such time as the patient may be returned to his care. While the attending physicians are loud in their criticism of the specialists on this point, the fact that there is mutual misunderstanding is shown by the specialist's complaint that he frequently is unaware of the attending physician's desire in this matter.

Closely related to this point is that of the report. Many attending physician's complained that the specialist's report was sketchy and incomplete, late, or non-existent. The specialists, on the other hand, complained that many patients reached them with no information whatsoever from the attending physician and that they were faced with the task of trying to discover what the attending physician had in mind when he referred the patient as well as what had been done for the patient in the past.

The other points covered related to reason for consultation, fee splitting, re-referral, responsibility for follow-up care, and case stealing.

It was concluded that given a competent referring physician, a competent consultant, and liberal application of the Golden Rule, misunderstandings would be minimized and good patient care would be the result.

*Howe, H. F.: Annual discourse: procedures in consultation and referral. New England J. Med. 260:1251 (June 18) 1959.



DELAWARE BLUE SHIELD-BLUE CROSS

SENIOR CITIZENS — 65-LIMITED PROGRAM



Realizing the problem confronting families and individuals on the subject of care of the aged, Delaware Blue Cross-Blue Shield, Group Hospital Service has come up with a solution.

Thirty maximum benefit days of hospital coverage plus 30 more at a reduced benefit for each hospital confinement are provided in the new "65-Limited" program.

The benefits are not as extensive as those provided in the standard Blue Cross-Blue Shield contract. There are 14,200 Delawareans 65 years of age or older who already belong to the standard plan and these members may keep this Blue Cross-Blue Shield coverage on reaching age 65. People of long-standing membership should rightfully be provided with the benefits they bought well before they reached the upper age bracket.

There are many people, however—including those who belatedly recognize the need for hospital care, or those who elected other coverage which did not provide continuity of benefits beyond age 65. This new limited program is primarily for these 18,200 Delawareans, 65 or over, who are not members although they may have had previous opportunities to enroll.

Therefore, the following regulation has gone into effect. Employees who apply for Blue Cross-Blue Shield at age 60 or over will become eligible for the benefits of the "65-Limited" Contract *after* leaving any company group of active employees.

The new "65-Limited" program includes hospital-surgical-medical coverage similar to the standard Blue Cross, with these important differences:

1. The new "65-Limited" plan provides 30 days of hospitalization, at \$16 a day, plus 30 days at \$10 per day, toward all ser-

vices, for each hospital confinement. The standard semi-private Blue Cross Plan provides 70 days at maximum benefits (the most frequent semi-private accommodations used at the hospital concerned) plus 295 days at \$10 per day.

2. Nursing home coverage in the new plan will be 60 days at \$8 per day. The standard Blue Cross Plan provides 70 days at the same rate.

3. The new plan provides up to 10 visits by nurses of the Visiting Nurse Association after hospitalization. The standard Blue Cross plan does not include that benefit.

The surgical-medical plan in the "65-Limited" program provides the same benefits as the Blue Shield Plan except that the number of days covered for medical visits in the hospital is reduced from 90 days to 60 days per confinement and no maternity benefits are provided.

Both the new "65-Limited" plan and the standard Blue Shield Plan provide coverage for surgeons' fees up to \$225, plus certain payments for anesthesia, x-rays and consultations.

The rates for the "65-Limited" program are \$6.48 a month for the hospital-surgical-medical coverage for each adult. There is no combined rate for husband and wife; but there is a combined rate of \$7.96 per month for hospital-surgical-medical coverage for a subscriber and dependent child (or children) under 19. Subscribers will pay directly to Group Hospital Service.

Enrollment was open during the week of June 22-26, 1959 to all eligible Delawareans in good health, who were not already members of the Blue Cross-Blue Shield Plan. It is anticipated that enrollment for the plan will be offered periodically in the future.

WOMAN'S AUXILIARY

Annual Report of the Kent County Auxiliary to The Delaware State Medical Society, 1958-1959

Kent County records that with its twenty-nine eligible members, organization is one hundred percent. Because of the small membership, efforts have been concentrated mainly on close correlation with the Future Nurses Clubs in all the high schools in Kent County. Necessary information and papers relating to the nurses scholarships have been distributed during the year to the school advisors and school nurses. Late in April, invitations were extended all the Future Nurses Clubs and a tea was held in the Dover High School Cafeteria to promote nursing as a career. A very enlightening film, obtained by the Chairman of Paramedical Careers, was viewed by the girls during the program. It stressed the important role each employee played in his respective field.

Members voted to send two subscriptions of "Today's Health" to the Delaware State Welfare Home at Smyrna and one copy of "Today's Health" to the Kent General Hospital in Dover, for display use in the lobby. These subscriptions were for 4 years each.

The next project was collecting toilet articles and having each member volunteer to assemble a kit, containing hairbrush, cosmetics and toilet articles for distribution at one of the cottages at the Stockley Home for retarded children and adults. The object of this was to help the more advanced patients to care for themselves. Various druggists in Dover and Smyrna contributed cosmetics that were discontinued or damaged and the Coty Corporation of Dover sent a large box of toilet articles and cosmetics. Since ample kits of this kind had

already been assembled for Christmas, the extra box of toilet goods was set aside and presented to Dr. Tarumianz at Stockley, right before the Easter holidays.

A gift is presented at Christmas to each girl selected by the organization for a scholarship. This past year, a white orlon sweater was the gift chosen for the scholarship winner from Kent County.

Books, magazines and periodicals or games have been collected and distributed among the patients at the State Welfare Home in Smyrna. Members are urged periodically, to drop in for a visit with the old folks who always welcome and appreciate any little thought or remembrance.

A donation was given to the Junior Board of the Kent General Hospital, Dover, to help with the local drive for the newly completed hospital. Many of the members of the Auxiliary helped solicit for the building fund itself. Good attendance at meetings, which only number four per year, has helped in promoting the Auxiliary's projects.

All members have been busy, individually, in other civic projects such as Junior Hospital Board, Girl Scouts and Boy Scouts, PTA, church work and many other organizations that benefit the community.

The Kent County President presents an award from the Auxiliary to each Kent County High School graduate who has made an outstanding contribution to her Future Nurses Club during the year.

MRS. JOHN J. LAZZERI,
President, Kent County Auxiliary



Underweight Children Gain and Retain Weight with Nilevar[®]

One of the most convincing evidences of the anabolic activity of Nilevar, brand of norethandrolone, has been its ability to improve appetite and increase weight in poorly nourished, underweight children.

A highly important feature of the weight gain thus produced is that it is not ordinarily manifested by deposition of fat but as muscle tissue resulting from the protein anabolism induced by Nilevar.

Anorexia and "Weight Lag" Study—Brown, Libo and Nussbaum have reported* consistent and definite increases in rate of weight gain in eighty-six patients, ranging in age from 7 weeks to 15½ years. This beneficial action of Nilevar was observed in the patients with organic and traumatic disorders as well as those whose only complaints were poor appetite and/or persistent failure to gain weight.

In this study, the weight gained was not lost

after discontinuance of Nilevar therapy although many patients did not continue the sharp gains effected by the drug.

The authors are of the opinion that Nilevar is a highly useful anabolic agent for influencing weight gain in underweight children.

When Nilevar is administered to children a dose of 0.25 mg. per pound of body weight is recommended and continuous dosage for more than three months is not recommended.

Nilevar is supplied as tablets of 10 mg., drops of 0.25 mg. per drop and ampuls of 25 mg. in 1 cc. of sesame oil. Further dosage information in Searle Reference Manual No. 4.

G. D. Searle & Co., Chicago 80, Illinois.
Research in the Service of Medicine.

*Brown, S. S.; Libo, H. W., and Nussbaum, A. H.: Norethandrolone in the Successful Management of Anorexia and "Weight Lag" in Children, Scientific Exhibit presented at the Annual Meeting of the American Academy of Pediatrics, Chicago, Oct. 20-23, 1958.



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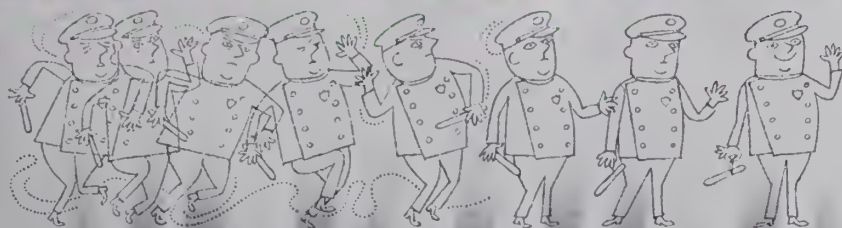
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Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.^{2,3}

Advantage of "dual therapy" confirmed:

Menger found ANTIVERT "improved or controlled symptoms in virtually 90% of vertiginous patients."²

Indications: Meniere's syndrome, arteriosclerotic vertigo, labyrinthitis, and streptomycin toxicity. Also effective in recurrent headache, including migraine.

Dosage: one tablet before each meal.

Supplied: bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Charles, C. M.: *Geriatrics* 2:110 (March) 1956. 2. Menger, H. C.: *Clin. Med.* 4:313 (March) 1957. 3. Shuster, B. H.: *M. Clin. North America* 40:1787 (Nov.) 1956.



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avoid the risk of insoluble, irritating aspirin particles

Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.¹⁻¹⁰ Studies performed in conjunction with gastrectomy^{4,5} and gastroscopy² have shown insoluble aspirin particles firmly adherent to

the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.^{2,4,5} This is reported to be particularly true in patients with peptic ulcer.⁴

CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage



Regular aspirin crystals 24 hours after being mixed into water.



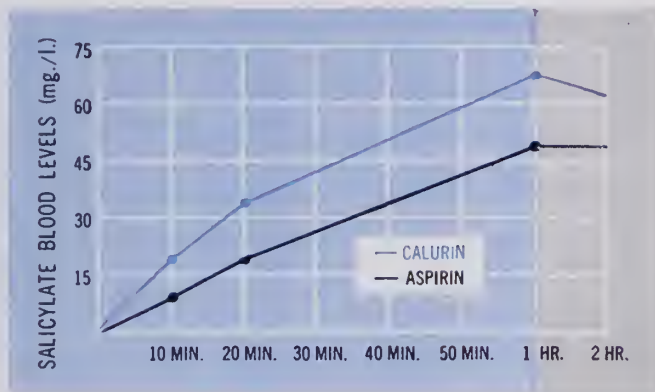
Calurin crystals in solution one minute after being mixed into water.

CALURIN*

TABLET SOLUBLE CALCIUM-ACETYLSALICYLATE-CARBAMIDE



Aspirin-induced ulceration — section through lesion in gastrectomy specimen. An aspirin particle was firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after dispersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.¹¹

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, antipyretic, anti-arthritic effect.
- 3 Sodium-free — for safer long-term therapy.
- 4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times

daily; in rheumatic fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

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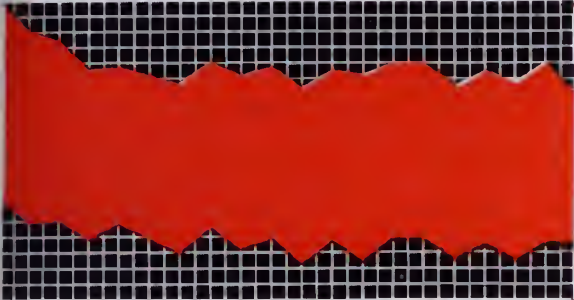
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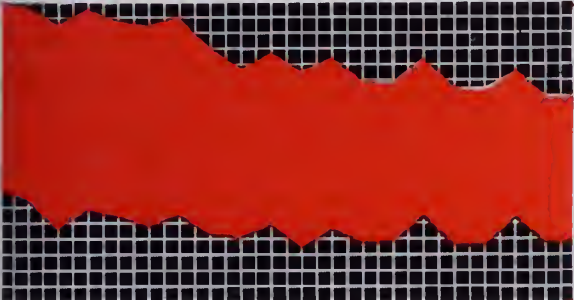
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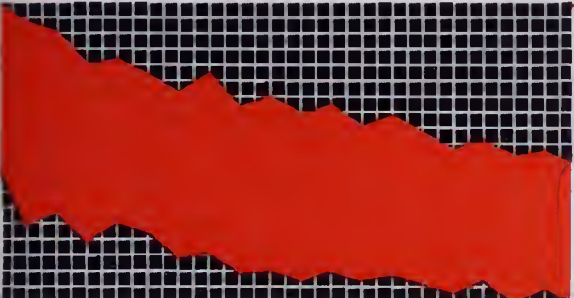
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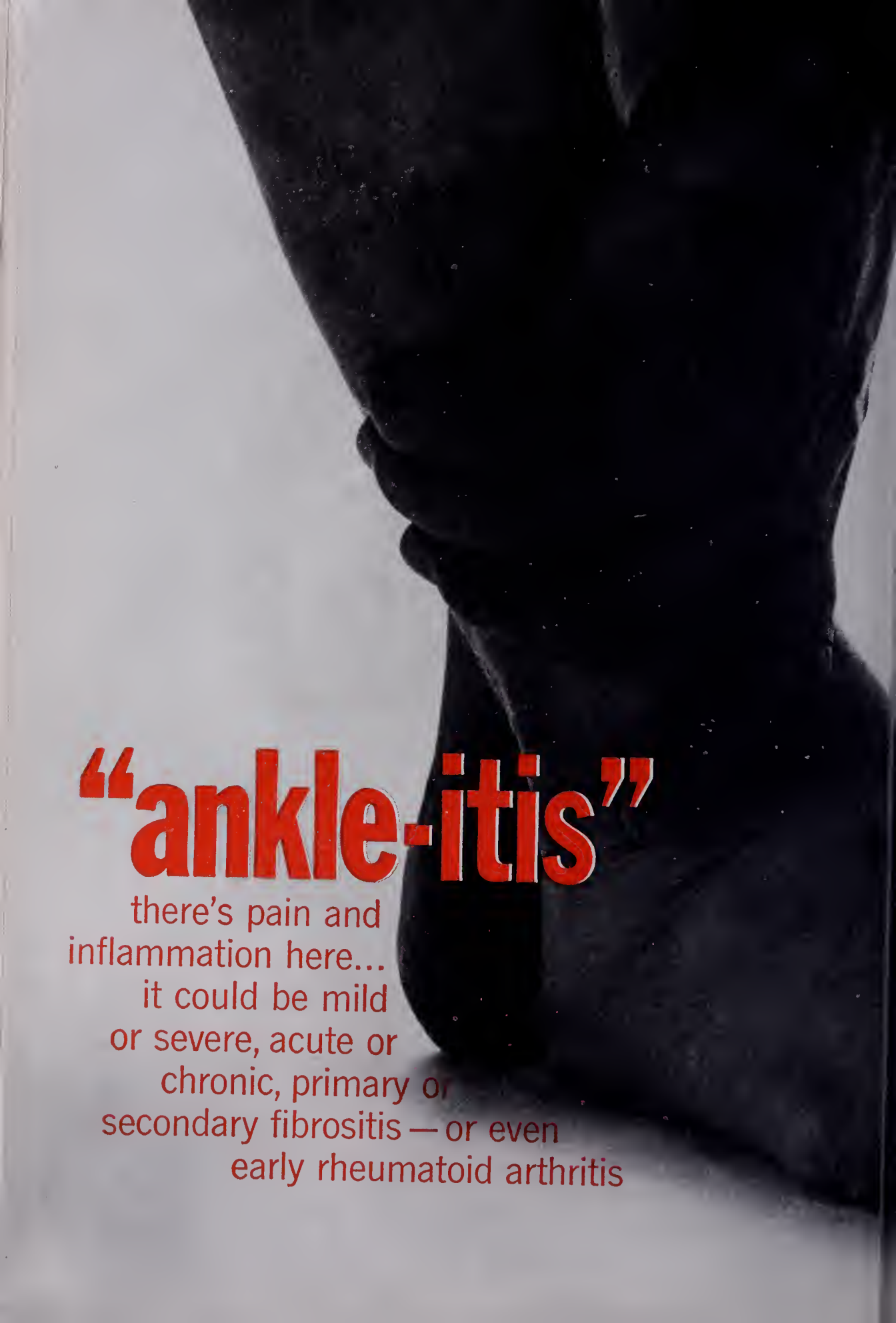
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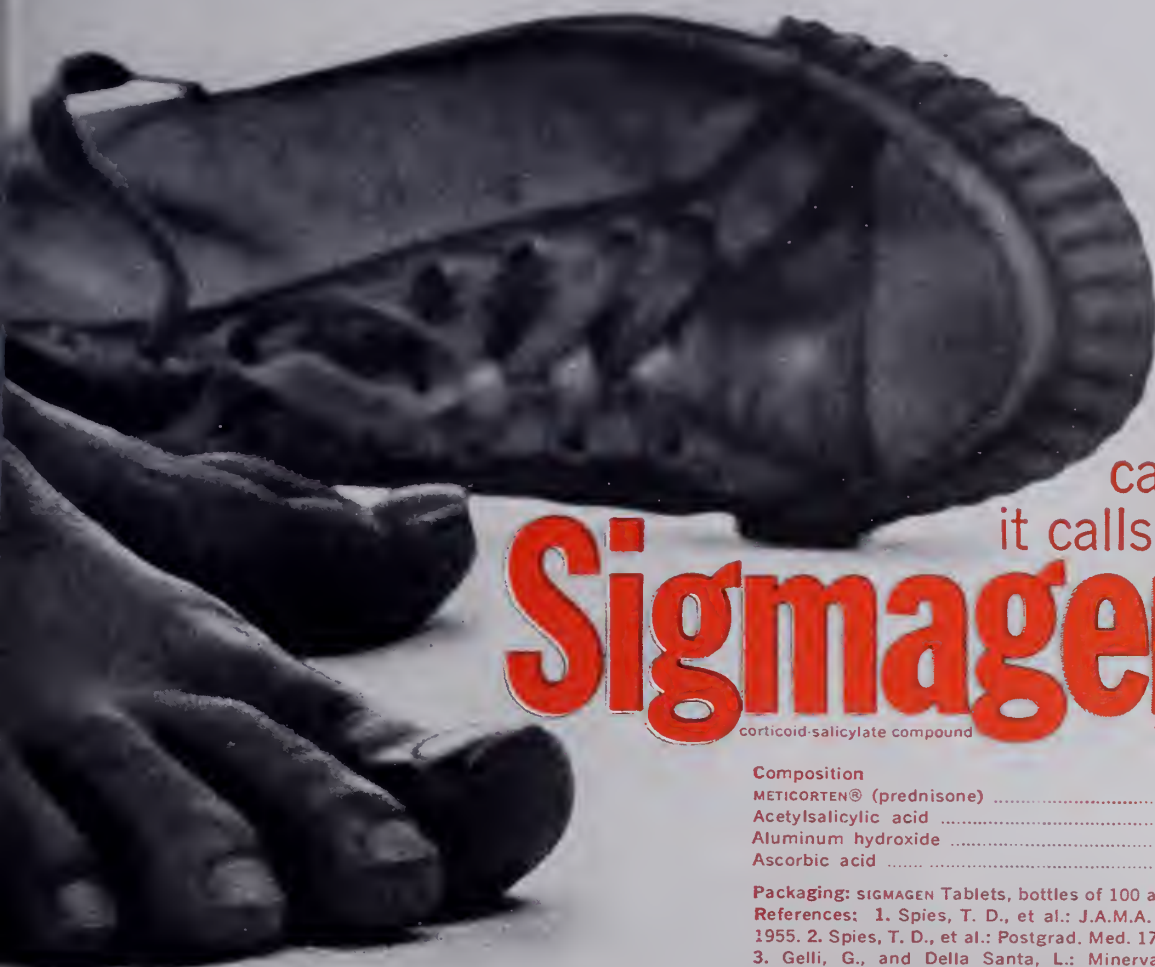
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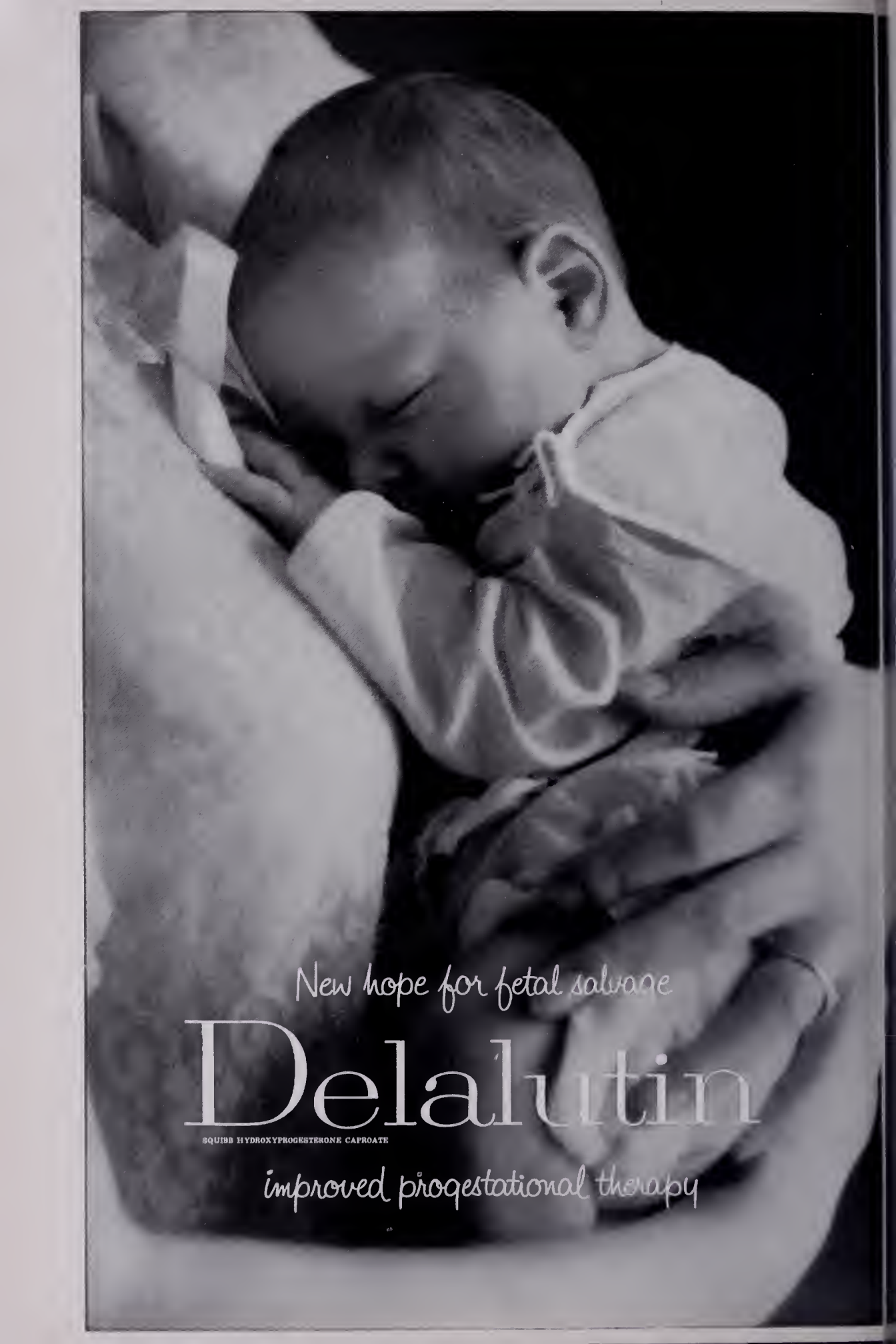
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• **References:** 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958. 5. Coirault, M., et al.: Presse méd. 64:2239 (Dec. 26) 1956. 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.



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References: 1. Reifenstein, E. C., Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukeavich, A. P.: *Am. J. Obst. and Gyn.* 76:279, 1958.

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Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.¹⁻¹⁰ Studies performed in conjunction with gastrectomy^{4,5} and gastroscopy² have shown insoluble aspirin particles firmly adherent to

the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.^{2-4,5} This is reported to be particularly true in patients with peptic ulcer.⁴

CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage



Regular aspirin crystals 24 hours after being mixed into water.



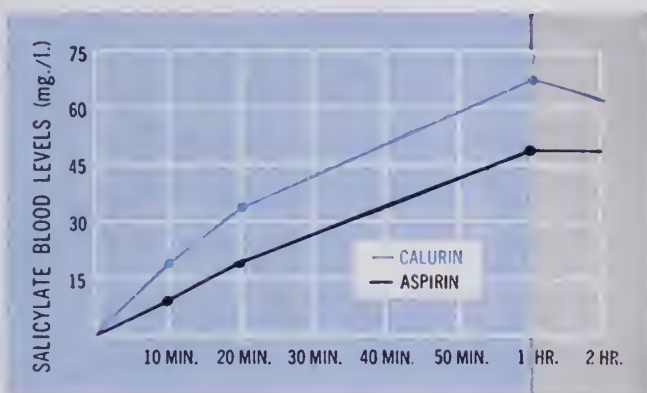
Calurin crystals in solution one minute after being mixed into water.

CALURIN*

AVAILABLE SOLUBLE CALCIUM-ACETYLSALICYLATE-CARBAMIDE



Aspirin-induced ulceration—section through lesion in gastrectomy specimen. An aspirin particle was firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after absorption in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.¹¹

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritic effect.
- 3 Sodium-free — for safer long-term therapy.
- 4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Each tablet of Calurin is equivalent to 300 mg. (5 gr.) acetylsalicylic acid. For relief of pain and fever in adults, the usual dose of Calurin is 1 to 3 tablets every 4 hours as needed; in arthritic states, 2 or 3 tablets 3 or 4 times

daily; in rheumatic fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, Brit. M. J. 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, Lancet 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, Canad. M. A. J. 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, Brit. M. J. 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, Lancet 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, Gastroenterology 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, New Eng. J. M. 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, New Eng. J. M. 258:219, 1958. 10. Editorial: Aspirin plain and buffered, Brit. M. J. 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

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References: 1. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 2. Charles, C. M.: Geriatrics 2:110 (March) 1956. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956. 4. Dolowitz, D. A.: Rocky Mountain M. J. 55:53 (Oct.) 1958.



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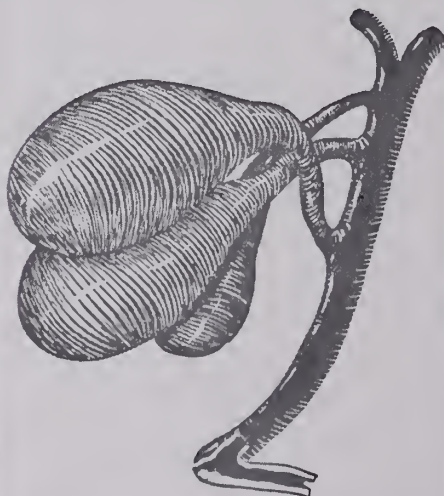
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Source: Skilboe, B.: Am. J. Clin. Path. 30:252, 1958.



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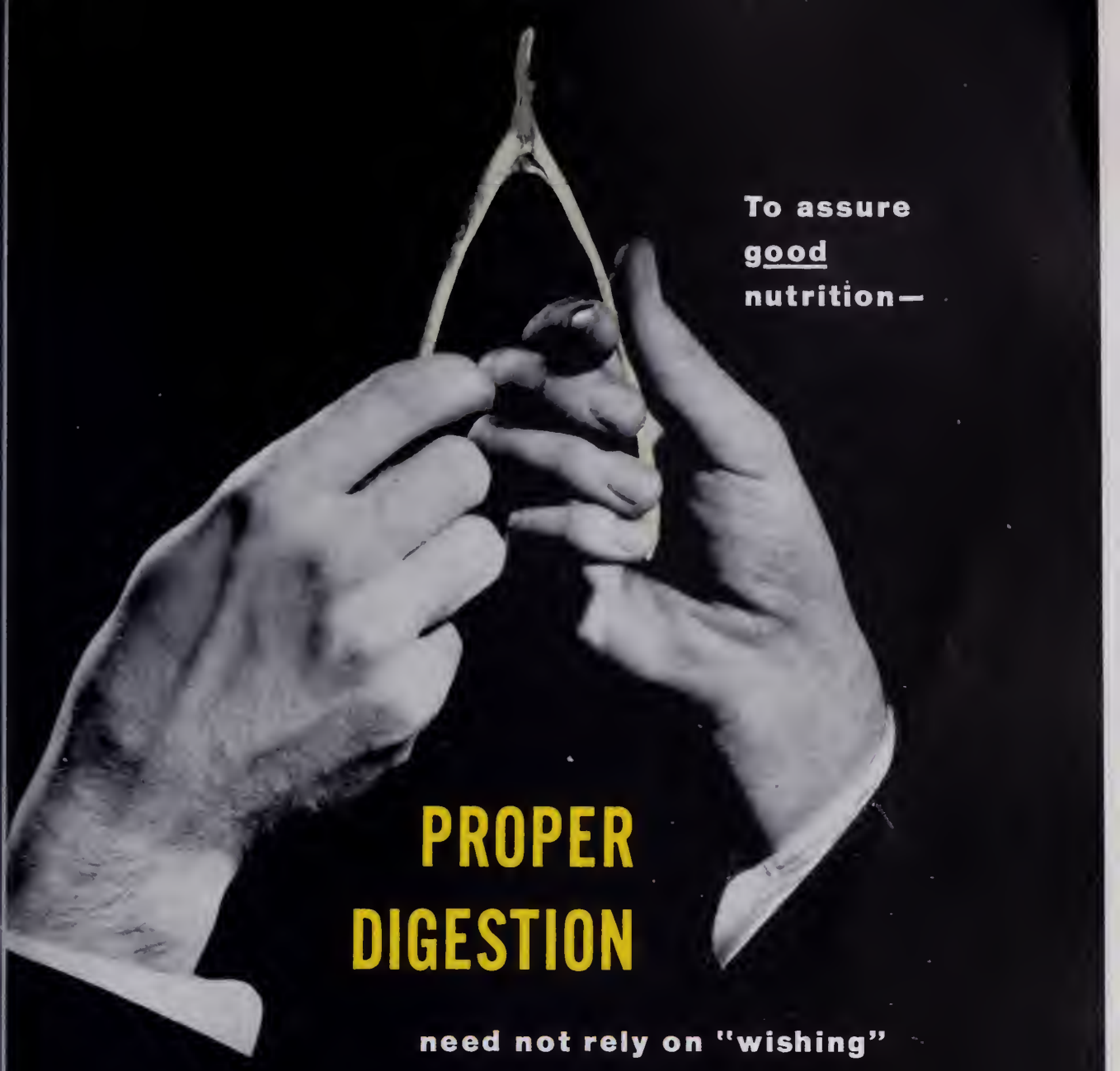
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(1) Beckman, H.: *Drugs: Their Nature, Action and Use*, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) *Biliary Tract Diseases*, M. Times 85:1081, 1957.

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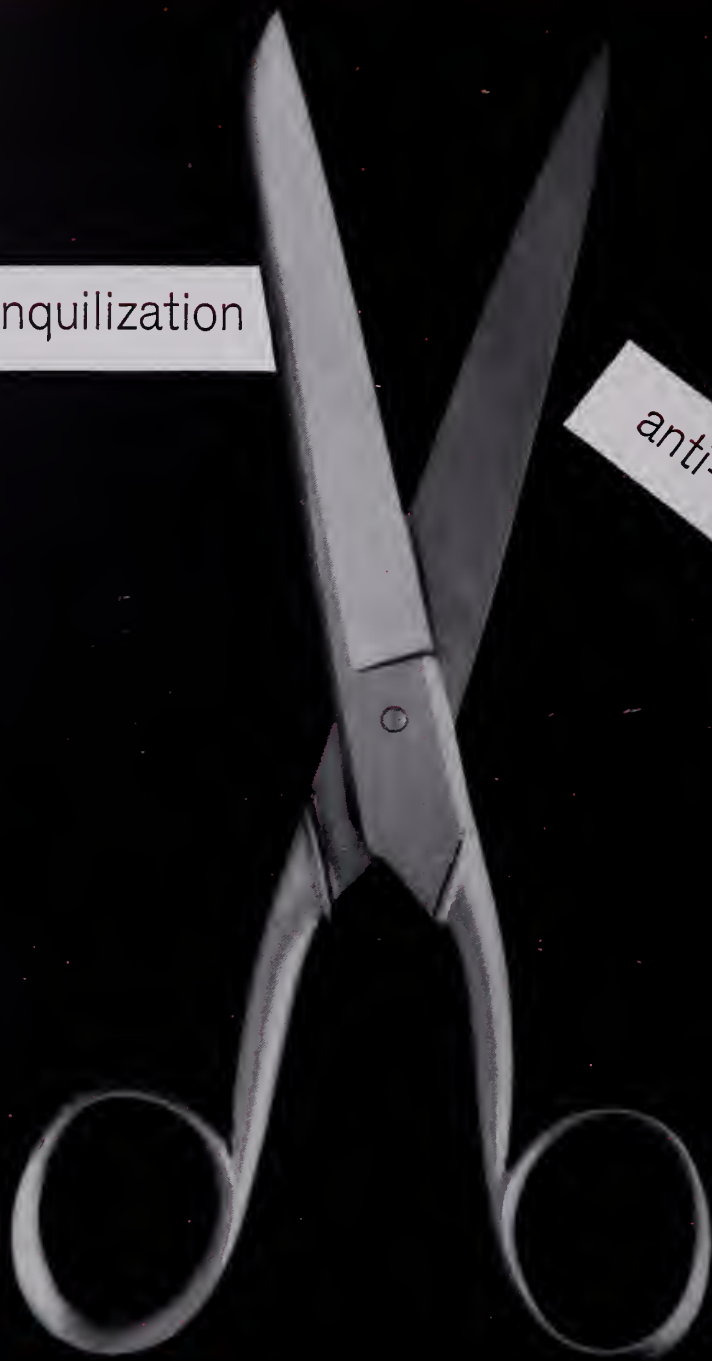
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greater specificity
of tranquilizing action
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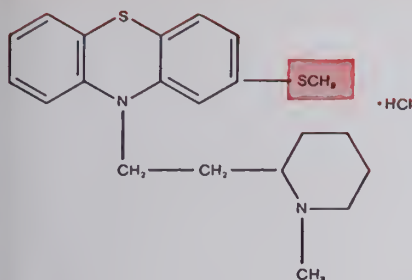
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is virtually free of such toxic effects as • jaundice • Parkinsonism • blood dyscrasia

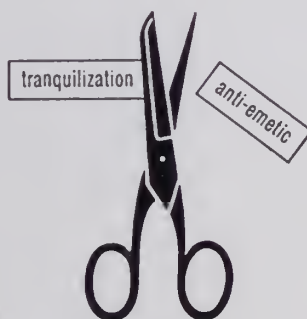
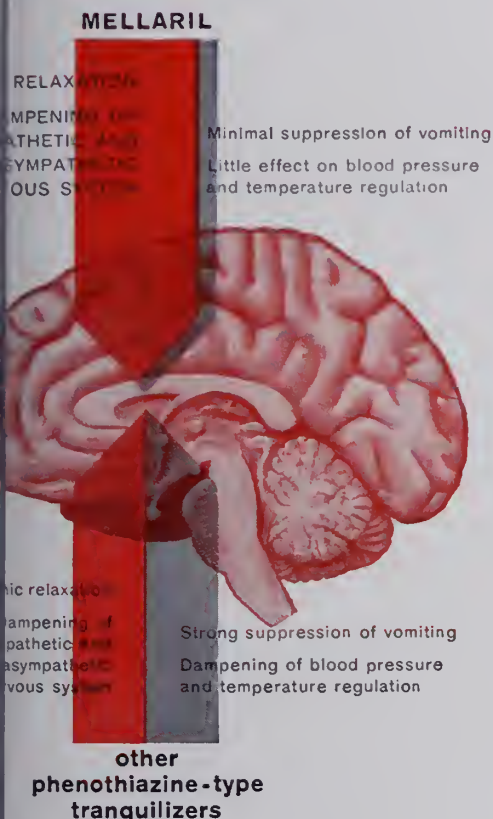
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- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy.
- 5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
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MILD — where anxiety, apprehension and tension are present	10 mg. t.i.d.	20-60 mg.
MODERATE — where agitation exists in psychoneuroses, alcoholism, intractable pain, senility, etc.	25 mg. t.i.d.	50-200 mg.
SEVERE — in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.:		
Ambulatory	100 mg. t.i.d.	200-400 mg.
Hospitalized	100 mg. t.i.d.	200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.

MELLARIL Tablets, 10 mg., 25 mg., 100 mg.

A. M.: Scientific Exhibit, American Academy of Child Practice, San Francisco, April 6-9, 1959





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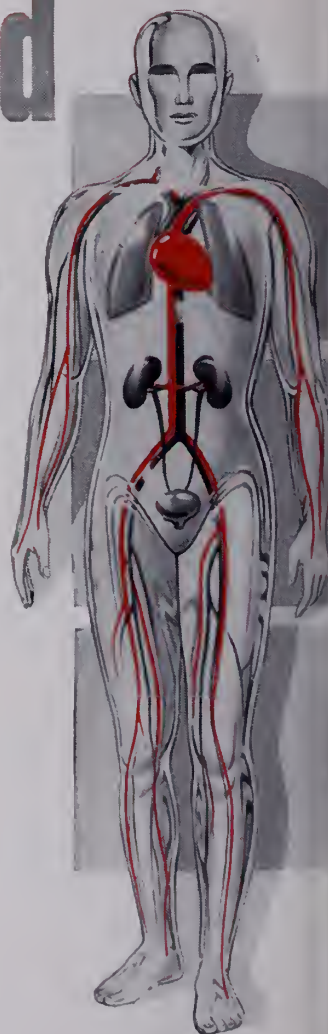


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References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959.

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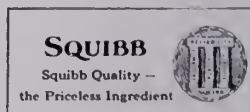
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*Actual quotations from physicians' reports in the files of the Schering Department of Professional Information.

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SIGNIFICANT ASPECTS OF PROFESSIONAL ETHICS IN THE PRACTICE OF MEDICINE

AS RELATED TO PSYCHIATRY

● The author's concern for professional ethics has been intensified in the past few years by his service as a member of the Committee on Ethics of the American Psychiatric Association, and as present Chairman of this Committee. The questions and complaints which have been referred to this Committee point out that it may be worthwhile to review the heritage of professional ethics and to consider some of the present problems confronting physicians, particularly psychiatrists, as they endeavor to help the mentally ill and emotionally disturbed who seek their services.

M. A. TARUMIANZ, M.D.*

The professional status of the physician has long been highly regarded by society in general. This had been due, at least in part, to the fact that from the earliest periods of the history of man there has existed some kind of systematic medical concept. From these early concepts, expanded and refined through the ages as a result of both study and experience or practice, has come the code of ethics by which physicians have been

guided in their relationship with their patients and with the public in general. Dr. Willard L. Sperry, a theologian and former Dean of the Harvard Divinity School observed that "the pre-eminence of medical ethics in the field of the several professions may well be due to its long history, a matter of twenty-five hundred years, and to its initial and still classic statement in the Hippocratic Oath."¹

A physician and the research assistant associated with him, in considering the high standing of medical ethics among other

*Superintendent of Delaware State Hospital, Governor Bacon Health Center, and Hospital For The Mentally Retarded; Director of the Mental Hygiene Clinics and Day Care Centers and State Psychiatrist.

professions commented, "It may also be due to the constant preoccupation of physicians with problems of life and death, which has made doctors somewhat more conscious of ethical and moral values than many other men. Whatever the reason, the ethics of physicians have been regarded as among the highest of the professions."²

HISTORY

In 1949 as President of the Medical Society of Delaware, I was privileged to consider with the Society, in my presidential address, the history of medical ethics.³

For many years I have been intensely interested in the problem of medical ethics, for it is my philosophy that a relationship of interest and concern for the patient's welfare on the part of the physician and of trust in the physician on the part of the patient is fundamental in effective treatment. I reiterate my statement made ten years ago that "the art (of medicine) in its Hippocratic sense has references, among other things,, to the practicing doctor's ability to inspire confidence in his patients and in their relatives. This requires on his part an understanding of human nature, abounding unselfishness and observance of the Golden Rule. It calls for the exercise of common sense in the handling of many domestic problems, not always relating to ill health, which so often makes him an indispensable person in those households that have learned to accept him as confidante or advisor."⁴

As has been mentioned already, systematic medical concepts date far back in history. In the fourth millenium before Christ, the people of Southern Mesopotamia had a system of medical concepts from which was derived the medicine of the period identified as Assyro-Babylonian. In the second millenium medicine advanced among both the Egyptians and the Minoan civilization (the prehistoric culture of Crete).

The Bible and the Talmud give evidence of the medical concepts current among the ancient Hebrews. It is interesting to note that among these ancient peoples the medi-

cal thought and practices were associated with the religious beliefs and customs of the various groups. The ancient Hebrews recognized the omnipotent God as the source of health and looked upon disease as punishment for sins. Among the Hebrews the art of healing was the prerogative of the one God. The priests were the interpreters and the instruments of the will of God. "The Hebrew hygienic and religious laws permeated the medical ethics and legislation of the Jewish people."⁵

Two great epochs have been identified in the development of medicine and its ethics among the early Persians—that found in the ancient books, *Zendavesta*, and that of the Arabian and Mohammedan culture. A code requiring medical practice existed among this ancient people. The passing of certain tests and examinations was required to qualify a person to practice medicine. Also, a physician who committed a wrong in his medical practice was punished according to the code.

IN THE BEGINNING

Medicine among the ancient Greeks or Hellenes was based upon the knowledge of the preceding civilization and the neighboring countries. The "freedom of thought, observation, and investigation," characteristic of Hellenic culture, influenced the development of medicine and the ethics concerning its practice. By the time of Homer, medicine was a "noble art." At first all the Gods worshipped by the ancient Greeks were believed to possess healing powers as well as the ability to cause disease. Later to Apollo was assigned the healing art; it was he "who chases away all ills."⁶

Chiron, the most famous of the centaurs—those half-man, half-horse creatures of Greek mythology—was renowned for wisdom and skill in medicine. From his name came the Greek word *chirurgie*, which means working (or operating) with the hand. This is the root word for the word surgery. Asklepios (or in Latin *Æsculapius*), the son of Apollo and a student of Chiron, was a physician who became a god of medi-

cine and healing. So well did Chiron train Asklepios that the latter finally was able to raise the dead. For this Zeus slew him. Asklepios is usually represented as a bearded man with a serpent. The staff with the entwined serpents is still the symbol of the physician.

Pythagoras, an Ionian, was a physician who founded a school and a system of philosophy. To Pythagoras himself was ascribed the doctrine of metempsychosis (or the transmigration of a soul after death to another body, either human or beast). Pythagoras also taught that earthly life is only a purification of the soul.

From this rich background of religious and mythical thought embodied in medical practice rose Hippocrates, who is regarded as the "father of medicine." Born in 459 B.C. on the island of Cos, Hippocrates died in 355 B.C., after a long life made outstanding by his contributions to scientific and ethical thought. "He established the facts that disease was a natural process, that symptoms were reactions of the body to disease and the function of the physician was to aid the natural forces of the body."⁷ He embodied his ideas regarding the character of a physician and the practice of the healing art in the famous oath which bears his name and to which graduates of medical schools, in numerous instances, are still asked to swear.

Although the system of medical education has changed from the apprentice-type of teaching to which Hippocrates and his followers subscribed and pledged to promulgate, much of the Hippocratic Oath is basic in the code of ethics of the medical profession at the present time.

HIPPOCRATIC OATH

Perhaps it would be well to refresh our memories on the Hippocratic Oath, which follows.

"I swear by Apollo, the physician, and Æsculapius (sic), and Hygeia, Panacea, and all the gods and goddesses, that, according to my ability and judgment, I will keep this Oath and this stipulation—to reckon him who taught me

*this art equally dear to me as my parents, to share my substance with him and relieve his necessities if required; to look upon his offspring in the same footing as my own brothers, and to teach them this art, if they shall wish to learn it, without fee or stipulation, and that by precept, lecture, and every other modes of instruction, I will impart a knowledge of the art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine, but to none others. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone if asked, nor suggest any such counsel; and in like manner I will not give to a woman a pessary to produce an abortion. With purity and holiness I will pass my life and practice my art. I will not cut persons labouring under the stone but will leave this to be done by men who are practitioners of this work. Into whatever houses I enter, I will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption; and, further, from the seduction of females or males, or freemen and slaves. Whatever in connection with my professional practices, or not in connection with it, I see or hear, in the life of men, which ought not to be spoken of abroad, I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this Oath unviolated, may it be granted to me to enjoy life and the practice of the art, respected by all men, in all times. But should I trespass and violate this Oath, may the reverse be my lot."*⁸

Needless to say, the medical practices of the Romans were much influenced by those of the Greeks, Aurelius Celsus, whose life began in the century before Christ (25 B.C.) and ended in 50 A.D., was the most outstanding name in Roman medical history. In his *De Re Medica* he commented on various medical practices of both the ancients and his contemporaries.⁹ Celsus expressed the belief "that physicians should admit their errors," for said he, "The simple error committed is proper for a man of great intelligence because thus he may be useful to those who follow and prevent others to be mistaken as he was mistaken."¹⁰

The Christian era, based as it was on the life and teachings of Jesus Christ, exerted a decided influence on the development of the practice of medicine. Among the early

Christian physicians was Luke, whose name is associated with one of the Gospels of the New Testament. Fundamental in the practice of medicine by the first Christian physicians was preaching the importance of faith, a doctrine derived from the teachings of Christ—"Thy faith hath made thee whole."¹¹

Through the centuries when the nations of the then known world were emerging as entities, bloody conflict was largely the order of the day. The care of the sick fell, to a great extent, on members of religious orders, and hospitals were built around the monasteries. This circumstance further associated high moral values with the practice of medicine.

SCHOOL OF SALERNO

In the middle ages medical thought and practice continued to advance. The practice of medicine by the laity developed, reaching its culmination in the famous School of Salerno, which exerted its influence from the 12th century to the end of the 14th century.¹²

Gradually, however, in Western Europe various states began to make laws rigidly prescribing requirements for the study and practice of medicine. By the end of the 15th century there were well-organized medical schools and strict laws regulating medical practice. Severe penalties were enforced against anyone who practiced medicine without the necessary license. Very strict ethical rules were enforced. For example, "a fine was inflicted on any physician who spoke evil of another in public."¹³

In the period between the 15th century and the 18th century, medicine saw many advances, with physicians of a number of European countries contributing significantly. To Sir Thomas Percival, an English physician, medical personnel today are greatly indebted for guidance.

Percival's Medical Ethics, published in 1803,¹⁴ was the basis for the first written codification of the ethical principles of the medical profession in the United States.

This was the first publication of the Code of Medical Ethics of the American Medical Association, which was published in 1848. Since that time there have been numerous revisions¹⁵—1903, 1912, 1940, 1949, 1953, the most recent in June, 1955.¹⁶

JUDICIAL COUNCIL

The Judicial Council is the body within the American Medical Association which decides judicial or ethical questions. This council was first organized in 1858 as a Committee on Ethics. It was reorganized in 1873 as a Judicial Council. At first "all questions of a personal character and all questions over credentials were to be referred to the Council *without discussion* and its decisions on all matters referred to it were final."¹⁸

Early versions of the American Medical Association Principles of Medical Ethics used as the preamble the following quotation from Percival's Principles of Medical Ethics, "These principles are not laws to govern but are principles to guide, to correct conduct."¹⁹

The 1955 revision of the AMA Principles begins with the following preamble.

*"These principles are intended to serve the physician as a guide to ethical conduct as he strives to accomplish his prime purpose of serving the common good and improving the health of mankind. They provide a sound basis for solution of many of the problems which arise in his relationship with patients, with other physicians, and with the public. They are not immutable laws to govern the physician, for the ethical practitioner needs no such laws; rather they are standards by which he may determine the propriety of his own conduct. Undoubtedly, interpretation of these principles by an appropriate authority will be required at times. As a rule, however, the physician who is capable, honest, decent, courteous, vigilant, and an observer of the Golden Rule, and who conducts his affairs in the light of his own conscientious interpretation of these principles, will find no difficulty in the discharge of his professional obligations."*²⁰

The care and treatment of the mentally ill has been for many years a matter of special concern to some physicians. The

first national medical association in North America was founded by thirteen physicians involved with the residential care of mentally ill patients. This was the Association of Medical Superintendents of American Institutions for the Insane, organized in Philadelphia, Pennsylvania, on October 16, 1844. In 1892 this organization was renamed the American Medico-Psychological Association. Its basis for membership was broadened. Since 1921 the Association has had the name The American Psychiatric Association. It was incorporated under the laws of the District of Columbia in 1927.²¹

MANUAL OF ORGANIZATION AND POLICY

The Council of the American Psychiatric Association on May 5, 1951, approved *A Manual of Organization and Policy* (Presenting Our Purposes and How We Work Toward Them). The membership of the Association approved the Manual on May 8, 1951, at the Annual Meeting held at Cincinnati, Ohio. Section VI of the *Manual* is devoted to professional ethics and includes the following statement:

*"Recognizing the fact that most members of the American Psychiatric Association are members of the Canadian or the American Medical Association (although membership in these bodies is not specifically required), the A.P.A. recognizes and adopts the Code of Ethics of these two bodies."*²²

Section VI also includes the following section from the *Code of Ethics* of the American Medical Association.

DUTIES OF PHYSICIANS TO THEIR PATIENTS

Patience, Delicacy And Secrecy

"Sec. 2 — Patience and delicacy should characterize the physician. Confidence concerning individual or domestic life entrusted by patients to a physician and defects in the disposition or character of patients observed during medical attendance should never be revealed unless their revelation is required by the laws of the state. Sometimes, however a physician must determine whether his duty to society requires him to employ knowledge, obtained through confidences entrusted to him as a physician, to protect a healthy person against a communicable disease to which he is about to be exposed. In such instances, the physician should

*act as he would desire another to act toward one of his family in like circumstances. Before he determines his course, the physician should know the civil law of his commonwealth concerning privileged communication."*²³

CODE OF ETHICS DRAFTED

For several years members of the American Psychiatric Association expressed the need for a code of ethics for psychiatrists. In the spring of 1953 such a code was drafted, dealing with certain special problems of psychiatry which are not treated in the American Medical Association Principles of Medical Ethics. Such items were considered as problems of confidences, of commitment and of incompetent patients, of fees to physician-patients, of matters connected with testimony, of consent, and of patients suicidal or aggressive toward others. Several district psychiatric societies considered the code and one adopted it.

In 1955 the proposed code of ethics for psychiatrists was presented to the Council of the American Psychiatric Association with the recommendation that the Council should study the matter further inasmuch as there was not unanimity of opinion among the membership that there is need for a separate code of ethics for psychiatrists distinguished from other physicians. To date there has been no further action on this matter.

The Committee on Ethics of the American Psychiatric Association has the responsibility of investigating complaints and accusations made against psychiatrists-members of the Association when such matters are presented to the Committee. In 1955, the Council of A.P.A. "adopted the Code of Procedure for use in ethical matters recommended by the Committee on Ethics."²⁴ The Committee investigation may include a hearing or hearings before which the accused physician and/or his counsel may appear. The Committee on Ethics reports its findings and recommendations to the Council. The Council takes final action.

In 1957 the Council adopted a procedure for disciplinary action against members of

the Association who are proven guilty of violation of ethics. The Constitution²⁵ and By-Laws of the American Psychiatric Association were amended in 1958, giving to the Council authority by which "a member may be admonished, reprimanded, expelled or suspended from the privileges of membership if such action is determined and voted by two-thirds of the Council; provided Council by a two-thirds vote shall determine that such a member has been engaged in unethical or unprofessional conduct, or has wilfully refused to comply with resolutions or requests of the Council, or brings discredit or dishonor on the Association or on the practice of psychiatry or if he has been convicted of a crime involving moral turpitude."²⁶

The complaint, the name of the member concerned, the findings and recommendation of the Committee on Ethics, and the final action of the Council are recorded in the minutes of the Council. The name of the member is not included in the report made by the Council to the membership and published in the *Journal* unless the member concerned specifically requests it.

As we have seen from this review of the history of professional ethics for the practice of medicine, including psychiatry, physicians have not lacked definitely stated principles to guide them in ethical conduct in the practice of their profession. In spite of this, questions and accusations suggesting the possible violation of professional ethics by physicians come to attention. What are some of these problems?

PUBLICITY

One of the most prevalent problems and one in which the physician may become involved unintentionally is the matter of publicity which is suggestive of self-advertising. Publishing companies, in their zeal to promote a book by a physician, may circulate material which makes unwarranted claims or is written in a style not becoming the professional dignity of the physician-author. Occasionally physicians have been

quoted in advertisements of pharmaceutical products. The section of the principles of Ethics of the American Medical Association which is concerned with advertising, states clearly,

*"Solicitation of patients, directly or indirectly, by a physician, by groups of physicians or by institutions or organizations is unethical . . . among unethical practices are included the not always obvious devices of furnishing or inspiring newspaper or magazine comments concerning cases in which the physician or group or institution has been, or is, concerned. Self Laudations defy the traditions or lower the moral standard of the medical profession; they are an infraction of good taste and are disapproved. . . ."*²⁷

In the matter of newspaper publicity there has been misunderstanding and misinterpretation at times. In a research study²⁸ made by a Clinical Professor of Psychiatry concerning newspaper medical coverage, the author has pointed out that "There is nothing in the code prohibiting the use of a physician's name in a newspaper, except that he should not inspire articles, seek self-laudation, or directly or indirectly solicit patients."

The relationship of a physician with representatives of the press and of other types of mass communications media should be such that publicity concerning the physician always will be in accord with the precepts of the Principles of Medical Ethics.

CHANGES IN PRACTICE

Accusations of fee-splitting among groups of physicians and of charging patients exorbitant fees have been made occasionally. The basis for some of these accusations lies in a lack of understanding in the general public of certain changes which have evolved in medical practice. For example, medical practice has from the earliest times been based on a one to one relationship, the physician and the patient. Scientific discoveries and advances in medical knowledge arising from the biological and physical sciences have accumulated to the point at which it is practically impossible for one person to become proficient in all the tech-

niques necessary to use the knowledge, even if he could *learn* it all. This has led to specialization. According to one report, in 1940 fourteen specialty boards existed and approximately 15,900 physicians had been certified for medical specialties. In 1953, there were nineteen specialty boards and an accumulated total of approximately 52,500 specialists.²⁹

Psychiatry is a special branch of medicine. The American Psychiatric Association Manual, in setting forth the scientific and professional aims and activities of the Association, begins with the statement, "The members of the Association are at once doctors of medicine, specialists in the practice of psychiatry, and scientists whose work ramifies into the physical, biological and social sciences."³⁰

FEES

Although it is recognized that higher fees may be necessary for the services of specialists, it is not justifiable for a specialist to charge patients unreasonably large fees or to make unwarranted claims.

There have been several accusations to the Committee on Ethics and malpractice suits argued in courts of law, on the complaint that a physician, in return for an exorbitant fee guaranteed to cure a patient of a mental condition for which there is no known cure.

The Principles of Medical Ethics directs that "a physician should not dispose of his services under conditions that make it impossible to render adequate service to his patients, except under circumstances in which the patients concerned might be deprived of immediately necessary care."³¹

The charge of fee-splitting is related, to some extent, to the change in medical practice from "single practice" to "multiple practice", or the care of a patient by one or more physician-specialists. Fees should be assessed for the service each physician renders the patient.

Regarding compensation for services ren-

dered by a physician, the Principles of Medical Ethics discusses this in detail. The statement follows.

"The ethical physician, engaged in the practice of medicine, limits the sources of his income received from professional activities to services rendered the patient. Remuneration received for such services should be in the form and amount specifically announced to the patient at the time the service is rendered or in the form of a subsequent statement.

"Unethical methods of inducement to refer patients are devices employed in a system of patronage and reward. They are practiced only by unethical physicians and often utilize deception and coercion. They may consist of a fee collected by one physician ostensibly for services rendered by him and divided with the referring physician or physicians or of receiving the entire fee in alternate cases.

"When patients are referred by one physician to another, it is unethical for either physician to offer or to receive any inducement other than the quality of professional services. Included among unethical inducements are split fees, rebates, 'kickbacks,' discounts, loans, favors, gifts, and emoluments with or without the knowledge of the patient. Fee splitting violates the patient's trust that his physician will not exploit his dependence upon him and invites physicians to place the desire for profit above the opportunity to render appropriate medical service.

"Billing procedures which tend to induce physicians to split fees are unethical. Combined billing by physicians may jeopardize the doctor-patient relationship by limiting the opportunity for understanding of the financial arrangement between the patient and each physician. It may provide opportunity for excessive fees and may interfere with free choice of consultants, which is contrary to the highest standards of medical care."³²

REFERRALS

Several complaints referred to the Committee on Ethics have involved the referral of patients by physicians to non-medical persons for therapy without supervision or any attempt to follow up. In one instance it appeared that a non-medical therapist continued to be represented as associated with a psychiatrist as his supervisor after the psychiatrist had moved to another state quite distant from the place in which the two had been associated.

The American Psychiatric Association in 1958 reaffirmed its position that "(1) 'Psychotherapy is a form of medical treatment and does not form the basis of a separate profession.' The psychological and physical components of an illness cannot be separated in diagnosis and treatment. (2) It is imperative that all psychologists dealing with persons suffering from mental and nervous disease and disorders should do so only under supervision by psychiatrists and in a medical setting offering adequate safeguards to the patient."

The question of privileged communication as regards confidential information obtained from or about a patient frequently gives rise to complaints of unethical conduct on the part of a physician, particularly a psychiatrist. Former patients and relatives of patients have charged psychiatrists with the release to individuals or agencies of confidential information about a patient without the knowledge and permission of the individual concerned or, in the case of incompetent persons, without the permission of the relative or guardians responsible for the patients. Reference has been made above to the section of the A.M.A. Principles of Medical Ethics of the profession on confidences concerning patients.³⁴

VULNERABLE POSITION

By far the most serious and the largest number of accusations made by patients or their relatives have concerned alleged intimacies between physicians and patients. Physicians, particularly psychiatrists, are in a vulnerable position inasmuch as their practice brings them into close contact with emotionally disturbed or mentally ill persons who may misunderstand or misinterpret the physician's relationship. In most instances, the charges have not been proven. It is essential, however, that the physician be on constant guard against a patient's becoming emotionally involved with him. The physician must be careful not to treat any patient in a method that has not been approved by the medical profession or that would not be acceptable to society in general.

SUMMARY

My purpose in citing these experiences is to remind my colleagues of the great responsibility on physicians, including psychiatrists, to uphold the high principles of medical practice. No matter what changes have been made in medical practice or may develop, the prime motivation of the physician must continue to be the relief of suffering humanity. If the medical profession is to continue to hold the same high place among professions in the future which it has had in the past, the members of the profession must always act in accord with the high standard of professional ethics.

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INCEST —

THE REVENGE MOTIVE

HARRY S. HOWARD, M.D.*

● The writer points out that psychiatric evaluations of large numbers of juvenile delinquents reveal a relatively large number of cases of incestuous relationships as part of the problem.

It is generally conceded that most incestuous relationships occur between father (father figure) and or between siblings. It is also conceded that rarely does one see an incestuous relationship between mother and son. This was, indeed, the experience of the writer who found no relationships of the latter type. It should be added that frequently the incest is not a primary one, but rather involves the sociologic parent and not the natural parent. Although we find that in many cultures sexual prohibitions are minimal, intra-familial incest taboos are absolute in all cultures. In "A Study of Girl Sex Victims",¹ the authors reached the conclusion that the following two factors are significant in sex problems

of girl sex victims:

1. *The fact that they do not particularly favor the acting out of child sexual impulses, but that they make in general, for poor control of impulses in the child.*
2. *Specific factors pre-disposing the child to sexual acting out, such as intense sexual stimulation of the child by the parent, or conflict within one parent, or disagreement between parents over the child's expression of her sexual impulses.*

This writer makes particular reference to the first factor, as suggested above, and will cite cases emphasizing this point. It is, of course, obvious that this group includes the so-called juvenile delinquent who acts out sexually.

The writer wishes to avoid a long drawn

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out and involved discussion of the oedipal conflict which ordinarily occurs in children during infancy and which, of course, is later involved in neuroses; but rather prefers to show the use of this incestuous activity as an act of revenge against the mother, and also an act of castration (and of revenge) against the father as well. Thus she succeeds in taking father away from mother, succeeds in producing serious embarrassment (if nothing more) to father and creates difficulty for the rest of the family throughout the entire situation. Generally, too, in the cases he evaluated, the author found that there was considerable promiscuity above and beyond the incestuous relationships already mentioned. Quoting Fenichel² on nymphomania, he describes it as a pseudo-hypersexuality and states, "The fact that intercourse may excite but cannot satisfy them creates the desire to force the unattainable satisfaction by renewed and increased attempts — — —. The attitude towards the objects is typically ambivalent because consciously or unconsciously he is believed to be responsible for the failure to attain satisfaction". Essentially, this author then indicates that the individual seeks gratification above and beyond (genital) gratification—and the aim to fulfill "the wish fantasy of depriving the man of his penis". (Revenge against father.)

The writer also makes reference to an article by Lillian Gordon, *Revenge Against the Pre-Oedipal Mother*³ in which she describes a case history analyzed by her and manifesting the desire for revenge against father who neglected her (or mother) and whom she was able to overpower by use of her seductive activities. It should be noted in each one of the cases to be described here, that the girl does not consciously accept the responsibility for the situation, instead being content to project the responsibility for the situation onto father, to express hostility to the father and mother both and, in some situations, to attempt to invite the sympathy of the examiner (the writer) or even to become involved in seductive activity towards the latter.

CASE A — LOUISE

Louise is a seventeen year old white girl who is presently married though not living with her husband. Her marriage lasted approximately five months and broke off because, as she stated, "I was afraid of intercourse — I wanted it but I was afraid to be hurt." Having made this statement, she almost immediately launched into a detailed description of her father's promiscuous sex life and, particularly, of her father's advances to her. She had ambivalent feelings towards her father and was, at the time of the examination, feeling rejected by her parents and hostile to both of them.

Louise first came to the attention of the authorities when, at the age of fourteen, she had gone to her school guidance counselor complaining of the fact that she had a great deal of difficulty getting along with other members of her family. After she had been physically punished by her father, she had gone to a court official to discuss her problems. She complained not so much of the physical punishment, but rather of the fact that her mother was very anxious to have her advance in a socially better group, but without the opportunities and facilities (economic) which would be required for her to move in this circle. As a result, she felt unacceptable and rejected in the group, stating that these girls had laughed at her clothing. She had tried to circumvent this by going to a church other than the one which her parents attended and, presumably, with another group of girls, and had succeeded in antagonizing her parents further in this way. We see here at the very beginning, then, a tendency to act in a manner which would be embarrassing to her parents but particularly to her mother.

Subsequently, both parents were seen by the writer and both complained of her defiance. The writer had the impression that they were quite defensive, that they could not take a realistic attitude towards the child and that they felt attacked by her. Of some interest in this connection is the fact that though the mother stated that she believed Louise when the latter, at that

time, denied sexual promiscuity, she nevertheless took the girl to an obstetrician for examination. On the other hand, it was known to the writer that Louise was, at the time, going out with a twenty-four year old married soldier with whom it was suspected she was being sexually active. Although several attempts were made to treat this girl by several different therapists, nothing came of it, essentially because she tended to circumvent the female therapist, telling her what she felt the therapist would like to hear, and because of her activities, which might best be described as "seductive," on the few occasions when she was seen by two different male therapists. In the latter situation it was obvious that she was attempting to "win over the authoritative male therapist" and in so doing punish both her mother and her father. The incestuous problem, which was mentioned to the writer when she was first seen at the age of fourteen, had apparently not been discontinued. It was suspected that she was not particularly passive in this relationship which was evidenced by the fact that she only talked about the activity when she wanted to hurt her parents.

CASE B — SARAH

Sarah was a sixteen year old, white, single girl, who was first seen by the writer at the request of the Juvenile Court. She was referred, essentially, because she had been charged with being a "run away." She had run away from home several times, had been involved in promiscuous activity and had specifically, and immediately at the time of detention, accused her father of having made advances to her over a period of four to five years. (This was denied by the father.) She had first run away at the age of fifteen, at which time she had planned to marry a nineteen year old soldier. She had been picked up by the police and charged with being incorrigible. The charge, however, was not pressed and six months later she had again run away from home, this time having been involved with a considerably older man. She had denied any intimacies with him. At this time,

however, she had refused to see her father, stating that she was fearful of him, indicating that she had not told the story earlier because she had not felt close to her mother, stating, "After all, she is my father's wife." Sarah, at that time, seemed to be confused regarding the sexual areas, though it was noticed that it made little difference as to the topic raised, since she brought everything around to a discussion of sex.

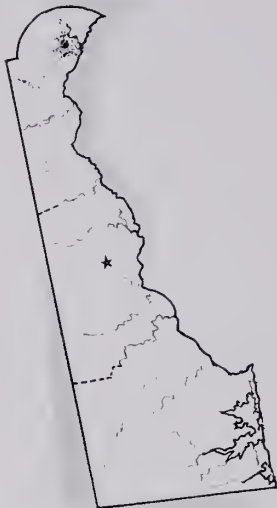
Following several attempts to help this girl make an adjustment outside an institution, she was finally institutionalized, but ran away and was seen after a period of about two years by the writer. Her behavior, at that time, was extremely seductive. She did her best to "butter up" the therapist in order to win her "freedom." Essentially, this activity was designed to control the therapist and, again, to dominate the situation. It was noted, however, that when the therapist interpreted this, she first threatened to withdraw from treatment and then, presumably for the first time in her life, agreed that she herself would have to be involved if anything was to be achieved.

We have only cited two of a number of cases, showing the same characteristics, which had originally been selected for this paper. In particular, the author wishes to point out the motivation for the participation in incestuous activity. The lack of ability to attain sexual gratification, with particular emphasis on the participation, becomes secondary to the motive of revenge—on the mother for failure to give the desired love—and on the father and siblings as well. The author also wishes to point out the contempt in which these girls hold their parents. It is noted in both of these cases, and in most of the others, that these girls fail to achieve sexual gratification and that the activity eventually becomes associated with a kind of nymphomania.

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Help For Severe



In the December, 1958 issue of *Children Limited*—a publication of the National Association for Retarded Children—a statement was ascribed to Dr. John A. Rose, Director of the Philadelphia Child Guidance Clinic, who asserted that—“*parents of retarded children can expect reassurance and guidance from physicians, and that there is a need to educate physicians to aspects of mental retardation.*” Figures have been published indicating that three per cent of pregnancies are destined to become mentally retarded individuals. It has been said that approximately five per cent of these pregnancies will result in severely, retarded persons.

Senate Bill 356, which was passed in the summer of 1957 and became a law, provided that the “State Board of Trustees of the Delaware State Hospital at Farnhurst may establish and operate centers for the daytime care of severely mentally re-

tarded persons at appropriate locations within the State and provide transportation to and from such centers.” The law defined severely mentally retarded persons as, “Those of any age deemed to be neither educable nor trainable in the public schools.” Further, the law appropriated sums for the operation of these centers for the biennium ending June 30, 1959.

The Supervisor of the Daytime Care Centers program was employed the following October and began recruitment and training of staff as well as locating and screening of patient population. Certain basic policies, procedures and philosophies were determined through conferences with Dr. M. A. Tarumianz, the Chief Executive Officer of the responsible agency.

Basically, the philosophy is two fold. The program is child-centered and parent-centered. For the child, the program is oriented to care and training. It is believed that the program can help the individual to learn to produce to his highest potential

*Supervisor of Daytime Care Centers. (M. A. Tarumianz, M.D., Superintendent of Delaware State Hospital, Governor Bacon Health Center, and Hospital for the Mentally Retarded is Director of the program.)

Mentally Retarded in Delaware

● This article delineates a program — that of Daytime Care Centers in Delaware, which has been designed to help the severely retarded persons of the State and their families. So far as it is known, this program is unique — the first of its kind in the nation, in that it is entirely state-supported.

CHARLES P. JUBENVILLE, Ed.D.*

and it does care for him daily in the sense that he is supervised while functioning in a controlled environment away from home.

Self-help and self-care activities are stressed for many who need this. Socialization is stressed for large numbers of others. Habit formation plays a large part in the program since these individuals are unable to learn or to think to the degree that most are able to do.

Mothers are given relief from their often tremendous burden of caring for these children for five to six hours a day. Other non-school, normal children in such homes are given greater chances to develop normally by being freed from the often disturbing presence of a severely retarded person.

Through the program, mothers are given opportunities to evaluate more objectively the effect of the retarded child upon the total family situation. Parents have become aware, in a number of instances, that their efforts were being spent primarily toward

the retarded child and have changed the emphasis more toward the normal children since the retarded child was entered into a Daytime Care Center.

It may be said that the program is, in a sense, preventive medicine. Certainly, it provides practical assistance which contributes to the better emotional tone of the family situation. Many families wish to keep their retarded youngster at home rather than institutionalizing him.

Daytime Care Centers are supervised by the Supervisor with the assistance of two half-time registered nurses, one for Sussex and Kent Counties and one for New Castle County. Centers are operated by Training Aides who are socially and emotionally mature women having been screened through pre-employment interviews and psychological evaluations.

Training Aides are given a period of approximately five weeks training at the Hospital for the Mentally Retarded at Stockley. There, they are assigned to practical

work on the wards, under nursing supervision with the same types of children that they will deal with in community centers. They are given two hours of lecture work daily in fields related to mental retardation including psychology, nursing care, habit formation, self-care and self-help training, recreation, and dietetics.

When the period of training has been completed and a final examination concluded successfully, the Training Aide is assigned to a community center to take charge of a group of children. The maximum quota for a Training Aide is six children.

Daytime Care Centers are opened in communities where generally there are six or more severely retarded children within a reasonable commuting distance. Transportation is provided at no cost to the parents. In fact, there is no cost of any kind to parents since the program is entirely supported by budget allocations from the State.

The program maintains an open intake referral policy. Referrals are accepted from all sources and the process of screening begun. Referrals have been made by school psychologists, social workers, parents and relatives, the Delaware Association for Retarded Children, County Health Units and State Board of Health personnel.

Screening of the referrals is accomplished through interviewing the parent and child, either in the home or in the Supervisor's office, and through psychological and psychiatric evaluations accomplished by Mental Hygiene Clinic personnel. The nurse assigned to the county of residence obtains a complete social case history prior to Mental Hygiene Clinic's scheduling, a history which is made available to the personnel there before evaluation. All possible medical sources are contacted also for pertinent information.

Upon the basis of all information and recommendations thus gathered, a final decision is rendered and, in the case of acceptance, the individual is assigned to a center and a date set for admission. Case

materials are discussed with the Training Aide who will accept the child into her group. The Supervisor and Nurse, after discussing this material, outline a program for the Training Aide to start with the child.

Generally, the same type of daily program operates in all four Daytime Care Centers, Monday through Friday. The children arrive at 9:00 A.M. by bus or auto on which a Training Aide is on attendance. Children then are taught to remove outer garments, hang them up properly and take their seats. A short and simple morning exercise is next scheduled after which follows the toilet-training period for those who need it. Others immediately start individual or group activities. A mid-morning snack of juice and crackers is provided after which educational and habit training activities continue. At noon time, a hot lunch is served which is dietetically well balanced. A rest period after lunch is scheduled on kindergarten-type cots. After the rest period, socializing group activities are conducted, including a mid-afternoon snack, until departure time at 3:00 P.M.

CENTERS ARE OPENED

Currently, there are four Daytime Care Centers operating throughout the State. The first to open was the Georgetown Center—on January 13, 1958—in temporary quarters in St. Paul's Episcopal Church. A short time later, permanent quarters were made available in the American Legion building. Two Training Aides cared for eight children in this Center on the opening.

Next to open was the Center in Dover which began operation on March 27, 1958 in the Del-Vets building with one Training Aide and five children.

The Hillcrest Calvary Episcopal Church in Wilmington became the location of the third Center to open. April 28, 1958 was the date and scheduled were four Training Aides working with nineteen children.

A Center, the fourth, was opened in Seaford in St. John's Methodist Church on

June 25, 1958 with four children and one Training Aide.

GROWTH

In reviewing fifteen months' progress since the opening of the first Daytime Care Center, slow and steady growth has been noted. The Georgetown Center has had two additional children enrolled. Dover has gained three more children and one Training Aide. Wilmington expanded with one more Training Aide and eight additional children. The total numbers, at the end of this period, show 10 Training Aides currently caring for and training 49 children. Chronologically, they range from 4-10 to 25-7 years. The mental age range is from three months to 5-5 years with the medium at 2-1. I.Q.'s generally range from 10 to —35. Seven were untestable with any psychometric technique but were adjusted severely retarded upon the basis of professional observation and available information.

Although these children are severely mentally retarded, there are a number of complicating factors evident among them. There are 6 cerebral palsy cases, 2 blind, 2 (twins) with phenylketonuria, 11 mongoloids, 10 brain damaged hyperactive, and 3 convulsive disorder cases. 27 are aphasic, 14 have partial speech, and 8 demonstrate good speech.

Problems presented by these children fall into three general categories: habit, behavior, and physical. The need to establish habits of self-care, self-feeding, of eating a variety of foods, and toilet training appeared among many.

Under behavior, the following types must be dealt with: aggressive, destructive, negativistic, temper-tantrums, anxious, fearful, withdrawn, run-away tendency, immature, need for constant supervision, uncooperation. Socialization is a big need for many.

Physical problems of poor appetite, congenital heart disease, poor coordination in balance or walking or manipulation, partial deafness, inactive, obesity, seizures, speech, and poor vision are noted.

EVALUATION

An evaluation of the effect of the Daytime Care Center program was attempted at the end of the first fifteen months. This was accomplished by a case conference on each child in the program. The Supervisor, the Nurse and the Training Aide involved with each child met together to evaluate his progress in terms of rate of development and level of achievement contrasted with his diagnosis and problems noted upon admission.

It was found that 7 were rated as "Poor." They were the severe C.P. and brain damaged hyperactive cases. 11 were rated as "Fair", 22 as "Good", and 9 as "Excellent" with the technique described above. Comments volunteered by some of the parents to staff members have, in general, reinforced a number of the ratings.

Parents have become enthused over the Daytime Care Center program. Many, who were able, volunteered their services particularly at lunch time in the larger centers. Preparing, serving food, training children to eat, and cleaning up afterwards represent quite a large task for the Training Aides. Mothers have interested other women from church or social groups, particularly in Wilmington, to help in food preparation, serving and cleaning up, thus relieving Aides for teaching self-feeding habits.

In one area, the parents have voluntarily formed an organization to help in whatever way they can, especially to provide items which budgeted funds may not allow. Individually, many parents have expressed their interest and appreciation. The fact that one mother is now a full-time Domestic Science teacher in a High School and a contributing member of society has no small import. Parents have volunteered information concerning their own better emotional state of being and that of the whole family as a consequent of the program.

FAMILY BURDEN LIFTED

Parents naturally are pleased when they have been helped by their children becoming toilet-trained, as has happened in a num-

ber of cases, or children have become self-feeders, or have become better socialized. The assistance the Daytime Care Centers have given in helping children become more self-efficient, less of a family burden, has been meaningful to a large number of Delaware's citizens.

Not all of the severely retarded of the State as yet are having their needs met

through Daytime Care Centers. Growth and expansion of the Centers will undoubtedly continue as these individuals are brought to the attention of the program. It is expected that the facilities and the individual child training programs will continue to be improved through the efforts of the staff as time goes on and new data and new techniques are discovered.



Social Security Poll

The recent poll of attitudes toward Social Security in the Medical Society of Delaware revealed that a majority of physicians who voted, favor inclusion of all private practitioners within the program. Of 231 replies, 135 voted for inclusion, 84 voted against it, and 12 cast inconclusive or blank ballots. Votes cast represented 54.4% of the potential votes. The final results, expressed as percentages of the membership, were as follows: 45.6% not voting; 31.8% for inclusion; 19.8% against inclusion; 2.8% blank ballots or undecided.

The ballots were designed to make the issue of total coverage or no coverage as clear-cut as possible, and to exert as little influence as possible upon the voter. They were worded as follows:

"Assuming that voluntary inclusion for physicians cannot be had, and that the al-

ternatives are that all physicians or no physicians in private practice will be brought into the program, I think that:

- ☐ Every physician in private practice should pay Social Security Taxes and become eligible for Social Security Benefits.
 - ☐ No physician in private practice should pay Social Security Taxes and become eligible for Social Security Benefits
-
- ☐ I am presently covered by Social Security.
 - ☐ I am not presently covered by Social Security.

Given below is an analysis of the returns by preference expressed and by present Social Security status of the physician.

	Now Covered	Not Now Covered	Not Specified	Total	Percentage of Returns	Percentage of Membership
For Coverage	26-19.3%	102-75.5%	7-5.2%	135-100%	58.4%	31.8%
Against Coverage	14-16.6%	67-79.8%	3-3.6%	84-100%	36.4%	19.8%
Inconclusive or Blank Ballot	11-91.7%	1- 8.3%	0	12-100%	5.2%	2.8%
Total	51	170	10	231	100%	54.4%

THE ROLE OF THE PSYCHIATRIST

IN THE REHABILITATION OF A CARDIAC PATIENT*

● The function of the psychiatrist in the work classification unit is herewith defined with case illustrations and recommendations. It is clearly demonstrated and becomes apparent that there are many emotional problems surrounding the cardiac difficulty and the individual who is suffering from this disorder.

H. G. DeCherney, M.D.**

On January 15, 1959, a unit consisting of a cardiologist, psychiatrist, social worker and a vocational counselor, met for the first time in Delaware to evaluate the cardiac patient in an effort to help him return to gainful employment and or a comfortable existence. Each patient was seen by the above members of the team individually. The wife was seen by the social worker. At the end of the evening in a round table discussion, the team discussed fully the social, physical, personal and economic factors of the patients' problems, making certain recommendations to the referring physician, hospital, union, company, agency, etc. Since the purpose of this paper is to define the function of the psychiatrist on this team, the roles of the other members of the unit will not be discussed here.

Initially, the object of the psychiatrist is to evaluate the patient's reaction to his cardiac disorder. Here, one has to keep in mind how a patient handled previous stress-

ful situations in order to determine how he is reacting to this ailment. In addition to the emotional reaction to the disorder, it becomes important to determine the type of personality that we are dealing with, in order to evaluate whether this particular cardiac patient can deal with his disease realistically or will require some guidance. For example, on several occasions, we see a patient who minimizes his disorder although he has had repeated cardiac attacks of a severe nature. Of course this type of patient requires a different kind of management than the person who has a mild coronary attack and regresses to a rather infantile state of adjustment. These are two extreme types of emotional reaction to the cardiac pathology. There are other patients who, because of their particular type of emotional make-up, help make the cardiac pathology which is present, much worse. Then, there are patients who have symptoms of a neurosis in addition to the cardiac pathology present. And finally, there are those patients who are frankly neurotic or psychotic without any cardiac pathology present but who are referred to the work

*Cardiac Job Evaluation Unit, supported by The Delaware Heart Association.

**Psychiatrist I of the Delaware State Hospital.

classification unit because of "*cardiac symptomatology*." A few case illustrations will be given to demonstrate the above factors.

CASE I

This was a 53-year-old man who was referred to the work classification unit by a friend. According to the patient, he asked to be evaluated in the unit because he felt that he should have an easier task at his job since having his "heart attack." The medical history revealed that seven years ago the patient, while driving a truck, had a pain in his chest which felt like "a dead ache." This frightened him. One year ago he had had a pain in his left shoulder which radiated down his left arm concomitantly with chest pain. He was seen by a local practitioner who immediately had the patient hospitalized for thirty-one days in a general hospital in Wilmington, Delaware. At that time, a diagnosis of Coronary Occlusion was made. Since his disorder, the patient had been worrying excessively. He stated that although he had always been "nervous" and had to be on the go, he has now completely restricted all his activities.

The background revealed that Mr. M. was born and raised in the lower part of Delaware. His mother is 64 years of age, living and well. His father died at the age of 62 due to cancer of the lung. The paternal figure is described by the patient as having been a good provider. The parents were further described as being very strict. There was one sister who died of tuberculosis in 1944 at the age of 21. Mr. M. left school while in the sixth grade at the age of 14 to help his family financially. He soon married a girl he had known all his life. At the age of 21, he came to Wilmington. He secured a job with the railroad company where he remained for 10 years, having been an excellent worker. He had to leave the company because there was not any work. At no time did he have any difficulties with his employers. He then found work driving a truck for a lumber company where he has remained since. At the pres-

ent writing, the patient stated that he was dissatisfied with his job although his employers had given him a helper which eased his work load considerably. Prior to his cardiac attack the patient had worked at home rather diligently until 11:00 P.M., socializing quite a bit and apparently making a fairly good adjustment. However, since his cardiac difficulty he began restricting himself from doing any work at home and became extremely cautious to the point where he did not even go to church. His daily routine usually consisted of work, dinner and bed.

It then became apparent that we were dealing with a patient who had reacted in a rather regressive manner to a coronary attack and that the problem of rehabilitation with this man was to give a tremendous amount of reassurance and support to help the patient out of this infantile state of existence. This was done. We have since heard from the patient and it seems he is doing fairly well.

CASE II

This patient was referred to the work classification unit in order to be evaluated for possible employment. The examination revealed a 31-year-old man who had a neat and tidy appearance. The history revealed that following New Year's Day, 1959, the patient began to note swelling of his ankles, "fulness of the stomach," and inability to lie flat in bed. He denied the existence of any physical illness although it was quite apparent to everyone else. Because of the persistence of his wife, he saw his local physician who in turn had him hospitalized in a general hospital in Wilmington, Delaware. At the time, the diagnosis of Congestive Heart Failure was made.

His background revealed that he was born and raised on the Eastern Shore of Maryland. His mother is 57 years of age, living and well. His father, 59 years of age, is also in good health. There was some concern by the patient as to whether he was liked by the father or mother since the financial situation was such that the par-

ents were preoccupied with caring for the children materially. The patient was the third from the oldest of five children. Mr. K. stated that he felt that he was cheated, that the two youngest children got things that he did not get. He quit school while in the 11th grade at the age of 17 because "I wanted to get a job," and has been working as a laborer ever since. The job he has held longest was as a crane operator for seven years. More recently, the patient has been working as a janitor but has not worked since his cardiac attack. He married a girl one year his junior; there are three children born of this union, aged 9, 8 and 2. The marital relationship was said to be compatible; however, since his cardiac attack he has apparently become more thoughtful toward his wife and children and now "feels more like a child." Mr. K. stated that he was fearful, and for the first time in his life had begun to take inventory of his personal situation.

In this case, we see a very good illustration of a man who, because of the strong need to deny any difficulties with himself, continued working even in view of overt cardiac symptoms. This patient apparently was always a passive, dependent individual who had a strong need to deny these feelings within himself. He was always restless, reserved, keeping all his problems to himself. Following the cardiac incident, dependency became more overt. He began to talk with people more freely and, as he stated, became "more like a child." In this case, it became apparent that because of his personality structure, this patient's cardiac pathology was made worse.

CASE III

This was a 31-year-old neatly attired and attractive woman who was referred to the work classification unit because of having awakened from her sleep with pain around her heart. Since that time, she has had palpitations and pain under the axilla. Mrs. F. then developed the fear that she might die from a heart attack. According to the patient, she had had her third child in

January, 1959. For three years prior to this attack, she had taken Dexedrine tablets to give her "a good feeling." According to the patient, she is "fanatic" about cleanliness and is never satisfied. At the time of the interview she was fearful of having another attack. In addition to the pain referable to the cardiac area, she has headaches of a psychogenic character.

Her family background revealed that she was born and raised in Wilmington, Delaware. Her mother is 56 years of age and well. She is described by the patient as being "a nagger" and not paying any attention to the patient at the present time. Her father died at the age of 50 in 1954 due to malnutrition. Mrs. F. stated that she was close to her father, and during the interview she broke down in tears while speaking about him. She felt that she had not gotten over his death and that if she had done more for him and had not been so selfish perhaps he would be living now. The patient is the oldest of five children. After finishing high school, she worked for a large corporation in Delaware for 12 years. She married in 1954 and at the present time has three children. The psychiatric examination revealed a meticulous, orderly, perfectionistic woman who could never say "no," and was "never bitter." In addition, she was extremely immaculate in her appearance and in her home. As stated above, she was so fanatic about her cleanliness that she scrubbed sometimes until 5:00 A.M. She could be further described as being a very diligent, dependable, sensitive, and serious-minded individual.

In this woman, we see a picture of an obsessive-compulsive character structure that has been delineated by this meticulousness, compulsive cleanliness, orderliness and perfectionism. In January these character defenses decompensated in the form of overt anxiety attack which manifested itself in the form of "cardiac symptoms." The electrocardiogram here was negative and this patient was told that she had no cardiac pathology and should seek psychiatric treatment for this difficulty.

SELF-PORTRAITS

AS A MEANS OF ILLUMINATION IN NEUROTIC AND PSYCHOTIC

The pictures by Renée, Madame Sechey's patient, who has meanwhile become famous, and the drawings by the chronic schizophrenic whom N. Elrod treated, are deeply impressive—not because of their “bizarre deviation” from “reality,” not because of their symbolic expression and their richness in ideas, but because they express the entity and existence of the sick human being — his being-in-the-world.

Accordingly, as a statement about existence and as a bridge toward an understanding between therapist and patient, those pictures made by the patients of the Observation Clinic are hereby interpreted.

Starting in December 1958, each of the patients — newly admitted after days of adaptation — were asked to draw or paint themselves in a landscape. Only two patients, chronic paranoid schizophrenics, refused to do so. All the other patients met this request and, after some hesitation and resistance, drew themselves during occupational therapy without the doctor present.** This was done to avoid any possible embarrassment. It was left to the patient which material and technique to select (i.e. size

of the paper, pencil or colors), since this selection might give valuable hints. Only the duration and patient's behavior while creating, were noted. Later, at a suitable time during the personal interview or psychotherapeutic treatment, the patient was asked to explain his picture to the doctor.

A few examples are presented here and only those facts of the patient's life history can be mentioned which are most necessary for an understanding.

PICTURE #1

Just as self-conceited and proud as this 68 year old businessman was, looking down on his company from the president's seat he had fought for, just so despaired was he during the last years, submitting to his own emptiness which was rinsed through with alcohol. When looking at his drawing which shows the roomy house the patient had dwelled in for 26 years and which he had had to leave recently, the writer was reminded of the verses by Hoelderlin from his poem: “*Haelfte des Lebens*” (half-time of life):

*“Weh mir, wo find ich, wenn es Winter ist, die Blumen,
und wo den Sonnenschein und Schatten der Erde?
Die Mauren stehn spachlos und kalt, im Winde
klirren die Fahnen.”*

* Psychiatrist III of the Delaware State Hospital.

** Grateful acknowledgement is expressed to Mrs. Bradford for her valuable cooperation.

EXISTENTIAL SITUATION

CHOTIC PATIENTS

KLAUS D. HOPPE, M.D.*

*(Woe, where will I find, when winter comes, the flowers,
and where the sunshine and shadows of the earth?
The walls stand there mute and cold, the flags
are clanking in the wind.)*

The huge house which the patient inhabited to upholster his self-esteem, had given him some feeling of belonging — the moving out of it had broken his heart. While living there, all he cared for was trimming the hedge — his time and love were devoted to his business. Wife, sons and grandchildren were shadows only. What way out was there for him except depression and alcohol when he realized that his successful son, as vice-president, was usurping his place. His rigid pride, his compulsions and tenacity which had been intensified during his struggle for success, were now leading him toward a destruction of what was left of his ego. Life without business, without success and youthful strength seemed senseless to him. In the shadow of the tower which he had lived in for such a long time, he was still able to stand. Then his "order of rank and of dwelling" (Rang-und Wohnordnung, J. Zutt) was destroyed. His hitherto existence in the verticle line—tower, trees, flag pole — as the man at the top, was impossible. Consequently, he inclined to the horizontal line, without any support or bounds, tottering with alcohol.

The psychotherapeutic interview with this patient circled around the meaning and beauty of his age. Attempts were made to loosen his schedule-like thinking and in place of it, to awaken his feeling for family and nature. He started to collect stamps and also became interested in photography. Slowly it became possible to thaw this man's being-in-the-world which had been frozen stiff. With a timid but happy smile he left the clinic and started building a house in California, as the home of his old age, for himself and his wife.

The house as an expression of being sheltered, of dwelling in the world, was found in a surprisingly high number of the patients' drawings. A 67 year old, shy and timid patient who had repeatedly gone through episodes of depression in her previous life, did not dare draw herself in her first picture. She sketched the view from her house: six slender, root-like little trees, in front of them a hardly perceptable but meaningful fence, in back of them the blue sky. During the course of hospitalization the question became more and more urgent as to what the patient's future was to be like. "I don't know," she would repeat stammering, "I cannot make up my mind." Then she did a second picture, showing herself on the way to the house which she had inhabited

for years with her husband who had recently died. This house, for important reasons, had now been sold by her son. Only the way back, into the past, seems practicable to a patient whose whole tragic impoverishment of existence is apparent.

In the next patient, a 59 year old woman, we were confronted with the same depletion of her world. Always closely linked to her family, she could not make up her mind to get married. A government job as secretary and director became her career. In 1950 she quit because of political changes, did not work at all and suffered more and more frequently from anxiety attacks after her parents and a close sister had died. Feeling isolated, she stayed in bed until noon, incapable of doing anything. "What for?" she would say, "There is nobody waiting for me."

PICTURE #2

She made a detailed drawing of herself standing in the middle of the picture — her surroundings merely indicated by words like sky, water and sand.

K. Machover's findings are of importance in understanding the drawing of the human figure. The vague, unsure smile, the accented and receptive mouth, the buttons stressing the midline, the stump-like fingers in contrast to the well finished feet as well as the accentuation of the neck and waistline, point out the narcissistic and egocentric personality which is dependent on the mother and which was unable to overcome the separation between "above" and "below"—could not reconcile the superego with the id. Thus, however, only one aspect of her personality was caught—her "world-around," her mode of instincts, drives, contingency and biological determinism. The arms—stretched out in an unsure fashion—gave a hint to the patient's "with-world" state. But it is the "own-world" only—the world in which the individual can be aware of the fate he alone at that moment is struggling with—which clarifies the existential situation and the degree of depletion of the "with-world" and the "world-

around." Only if we comprehend the patient's "with-world" and "world-around" through her "own-world," does it become appallingly clear how her despair has made her attuned space (L. Binswanger) empty. Proceeding from the patient's world design, psychotherapeutic treatment attempted to broaden the patient's narrowed existence in the view of the future, existentially spoken: to bring about a transcending of her past and present in terms of the future, to make the patient see herself as subject and object at once, to think in terms of the "possible," and to orient herself beyond the immediate limits of the given time and space.

The next self-portrait was done by a 42 year old lady patient who had herself admitted to DSH, after years of more or less successful treatment. She seemed schizophrenic, especially since she gave the history of visual and auditory hallucinations. From the very beginning of her hospitalization it was noticed that she experienced these hallucinations only with regard to two male figures who had played an important part in her life. For months she evaded any clarifying talk, hid behind her headache, seemed morbid, coquettish and histrionic. Finally she gained enough confidence in the therapist to scribble a scene in vague and tender strokes on a small piece of paper and then commented, "Somebody is chasing me—a man is chasing me. The highest mountain is a volcano." She did not offer a further explanation but went on, "This has nothing to do with any problem." During the course of intensive psychotherapy, now begun, this drawing served as a unique illumination of her situation. Her ex-husband, a much older, brutal and clever man who impregnated her at the age of 14, married her. During all these years he forced her to have intercourse with him in a disgraceful manner, i.e. by suddenly dragging her into a restroom. After 24 years of marriage she got a divorce since her daughters whom she adored, were by then grown up. She subsequently made the acquaintance of a congenial man, fell in love with him, but

The purity, the
wholesomeness,
the quality of
Coca-Cola as
refreshment has helped
make Coke the
best-loved sparkling
drink in all the world.



SIGN OF GOOD TASTE



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lost him when he suddenly died before the wedding took place. Some time later the patient began to appear psychotic.

PICTURE #3

Not only was her fear of her ex-husband's sadistic sexuality expressed in her drawing, but also her unsolved polarity in love. Flowers of a man's height and trees were in bloom, there were meadows, mountains and clouds. At the same time the patient appeared to be fleeing through a jungle, while above her a volcano threatened to suddenly destroy world and life. Thus, the volcano could be comprehended not as a phallic symbol, but also as a constant thread to rupture the continuity of her existence. Not only was she suddenly seized and forced to an intercourse which disgraced her every time, but her loved one, her fiance, was all of a sudden also taken away from her. In this extreme situation (Grenzsituation), even her anxiety failed — which after all is the experience of the thread of imminent non-being. The patient did not want to live in the here and now anymore, but fled into the realm of shadows. She constantly read the letters the deceased fiance had written her, and would hear him call, "Come." She would see him in the room, waving to her. Life in the shadow of the past makes life in the present and future impossible.

The patient still shrinks from any decision or from starting a new job or a new life. But in her dreams she now frees herself step by step from the past and stabs her ex-husband to death. Confided to the writer that after a hard struggle with herself she eventually destroyed the letters of her fiance. A possible improvement could well be announcing itself.

Yet something else becomes apparent from this patient's picture: the weakness of her ego. After an EEG with photic stimulation, she felt estranged — her body changed as if without legs and with shorter arms. She was unable to close her eyes, but stared at dancing men and monster-like apes which seemed to be flying straight into

her eyes. The weakness of the cathexis of her ego boundaries (P. Federn) becomes apparent and makes for an understanding of her dissociative phenomena and experiences of "Leibhaftigkeit" (K. Jaspers).

The patient was willing recently to perform the verbal self-portrait test by W. Boernstein. When asked "If you were an accomplished artist, how would you paint yourself?" the patient answered reluctantly, "Ugly—with only head, face and shoulders." Her facial features would be serious in mien and her age, that which she was before she got married, she added. The patient filled out the background with candle light and put the picture in a wooden frame. Thus the patient proved that she is still living in the past—in the realm of the dead. A ray of hope points into the future that she referred to the time before her marriage — before all the misery started.

Such dramatic statements revealed in self-portraits by the patients were found particularly in psychoneurotic patients. A 32 year old woman (a social worker) — with a deep conflict toward her parents which had existed since her childhood — lived in a state of infantile aggression and threatened suicide when she drew the house she was born in, ablaze. In her picture her parents were leaving in a car, she herself was crying for help from a window on the top floor — while the therapist — thinly sketched, was standing in the street, lifting his arm but unable to help. One week later, after her state of excitement had faded, the patient did a second picture. Using green colors, she drew round hills all over the sheet, with young trees growing on them and big rocks in between, she herself climbing up the farthest hill where the therapist was standing and waving to her. Apart from her oral desires (the patient associated breasts with the hills), and other psychodynamic connections, the strong transference to the therapist was of importance and of great value to her now since she is again working on the outside.

When admitted, a 49 year old lady pa-

tient was still suffering from the wound that had been caused by a shot she had aimed at herself, though originally intended for her husband. Three weeks after her admission, she drew a scene which took place in Bermuda or Bali; she and her daughter were sitting on a bridge which her father had built; she is fishing for a man and a horse which are both swimming in perfume. This patient is apparently still hoping for her desires to come true; as if being closely linked to her father, she could still enjoy life at noon, without the sun setting, plus flirting and winnings from the race track.

Another patient, a highly intelligent 32 year old woman, when asked to do a verbal self-portrait test, stated that she would put a halo around her head as she considered it the most important part of her body. Her symptomatology involved the fact that she was trying to injure her face. Two portraits of her head which she did later, bore witness to the two poles existing within her; the female one, soft, light and lovely — and the masculine one; harsh, with swollen erotic lips and cruel features.

A 54 year old alcoholic woman, inseparably linked to her husband by love and hate at the same time, drew a picture shortly before being discharged. Her drawing showed her pompous country house, her husband and children sitting on the porch and herself leaving with two suitcases in the foreground. She commented upon this scene: "I was always going away." Three weeks after her discharge she died.

Finally a drawing was presented by a 41 year old man which revealed his delusions. A clouding of consciousness plus his depressive and at times ecstatic experiences, might be best classified as a psychotic of the oneiroid type (Mayer-Gross).

PICTURE #4

This patient commented on his self-portrait by saying, "I only began to doodle in the corner of the paper. Then I felt — this is the sun, and around the sun there is blackness — the yellow disk is the sunshine." The blue spot was described by him as a symbol for the sky. Questioned where he himself was in the picture, the patient answered, "I am in the blackness — I'm living in a world of fear and anxiety." That part of the paper which was left unused and free, he called a vacuum — an emptiness and nothingness. The depletion of his world, the cosmic rise to the sun enveloped in darkness — with the sun being the only one still existing — could hardly have been expressed more clearly.

SUMMARY

It may be pointed out that this attempt at understanding sick fellow men, in no way claims to be a test. The writer has purposely refrained from any possible quantitative, statistical scoring or standardized qualitative analysis. Such measurement is only possible if the "house-tree-person" test is being used. It was not the writer's intention to define "the degree of the subject's maladjustment" but rather to approach the world design of other human being and to follow up not only the patient's "why," but also his "what" and "where." As L. Binswanger has pointed out, an exploration of the patient's entire life-history, especially in the psychoanalytic sense, is indispensable. The patient's being-in-the-world, represented by a picture as well as the empathetic interview with the therapist may thus be considered a means of deepening the psychotherapy existentially, like R. Kuhn has lately pointed out during a lecture on existential analysis.

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ANOREXIA NERVOSA

A Case Report

KURT ANSTREICHER, M.D.*

HISTORY OF THE DISEASE CONCEPT

Dr. Richard Morton of England, in 1694, described a state of "nervous consumption" in a young woman, with no fever or cough, but with suppression of menses.

Sir William Withey Gull first mentioned "apepsia hysterica" in his *Address in Medicine* delivered before the British Medical Association in Oxford on the occasion of the annual meeting of 1868. In 1873, Dr. Lasègue of Paris and six months later, Sir William Gull, offered more detailed descriptions of the condition, the former using the term *l'anorexie hysterique* and the latter, the now accepted term, *anorexia nervosa*.

The nature of the condition is still obscure. Originally considered a form of hysteria, the illness later on was thought to be organic in nature and finally was classed as a psychophysiological disorder. Lately some authors have stressed the profound and sweeping nature of the mental reaction and feel that it should be seen in psychotic proportions and in many instances as a schizophrenic reaction of simple type.

The symptomatology is remarkably uniform and distinctive and many features have already been described by those who originally described the condition: age and sex incidence — mostly young women,

rarely men — the willfully stubborn attitude of the (regressed) patient, anorexia, emaciation (with edema), amenorrhea, restlessness, the not infrequently fatal outcome.

A rather interesting case of this kind, recently admitted to the female admission service at the Delaware State Hospital gives the writer the opportunity to discuss certain special features of our case, and to attempt to relate our findings to the findings reported by others.

CASE HISTORY

Our patient is a 30-year-old single girl of French-Irish descent, the youngest of eight children, a produce store clerk by occupation.

General Family History: The family tree is tainted on the maternal side. Involved are the descendants of two sisters of the patient's mother. Of the seven children of the patient's mother's sister, Lydia, were:

1. Edward, at 27 years of age, admitted to a State Hospital where he died from exhaustion, seven days later. He was diagnosed as a case of Manic Depressive Reaction, Manic Type.
2. His sister, Mary Irene, had had four admissions to three mental institutions, was diagnosed as suffering from a Manic Depressive Reaction, Manic Type. Two of her children were mentally ill.
3. Irene Lorraine who had one admission to a mental hospital, received ECT, was diagnosed to suffer from a Manic Depressive Reaction, Manic Type.

*Psychiatrist III of the Delaware State Hospital.

4. Elizabeth, perfectionistic all her life, who became depressed, and committed suicide while arrangements were being made for her hospitalization and treatment.
5. One further daughter of Mary Irene has had psychiatric treatment recently.
6. The granddaughter of another sister (Clara) of the patient's mother has been a patient in this hospital also. Diagnosis: Psychotic Depressive Reaction.

Family Background: The patient's relationship to both parents would seem to have been significant.

Father of patient: C.W.G., died, 67 years old, from heart disease on February 7, 1953—an easy going, steady, unselfish man, loved by his children, drank some in younger years, but not a problem drinker,—stable earner and perpetual worrier. He favoured the patient, who was very close to him.

Mother of patient: E. Qu., 70 years old, alive. Suffers from diabetes mellitus. Presents herself as a helpless deaf, and almost blind, mild-mannered, kindly, concerned old lady according to the family, less helpless than she wishes to appear, according to all relatives interviewed, a most difficult personality. Nagging and jealous and unable to get along with others during childhood and adolescence. She forced one sister to leave home. Throughout her marriage, has been jealous of and resentful towards her husband. She has had many physical complaints, "at 16 all of her children had to quit school to take care of her" always on the go, frequently left the family, "she came and went as she pleased." Described as irresponsible, nasty-tempered, insincere. When the children were young she was cruel towards them, cursed and beat them. "I should have choked you to death when you were born." Regarding her final relationship to her husband, one child stated: "Prior to his fatal illness she nagged him to death, during his illness she did nothing for him, and following his death she tried to revile his memory to his children."

Patient's relationship with her mother: The mother is said to have been cruel towards the patient, beating her terribly. "I am going to kill you." The patient's attitude towards her mother was a mixture of resentment, "She (patient) fought back to defend father," "they argued all the time," with an effort to conscientiously understand and not criticize the mother.

Sibling situation: When the patient was born the oldest sister was 21 years old. During her first 10 years of life, the patient was raised mainly by her sister Dorothy, 14 years her senior. The patient was closest to her sister, Ethel, two years

the patient's senior. All siblings are fond of the patient, but have not found it easy to accept her difficulties. Two sisters are inclined to be perfectionistic. All are somewhat aggressive personalities.

Life History of the patient: Patient's mother was 39 when patient was born, had menopausal symptoms at the time. Three months prior to patient's birth, the then second youngest child of the family, Robert, was hit by a car and killed. "Mother took it terribly bad," and (to her husband): "God took him because you drank." The patient was born on January 14, 1928. During her pregnancy with the patient, the mother had a uterine tumor, for which she was operated on, when the patient was six months old. Patient had pneumonia in infancy. Feeding problems were not present, bowel training was not early. The patient was not particularly plumpish. During preschool years she is said to have been pretty and happy. She had 9 years in school, in two country schools, left school at 16, grade 7 was not a good student. However, school attendance, due to circumstances at home, was not quite regular.

Work adjustment: Patient has worked as a clerk in a number of stores. For 10 years she worked as a supermarket clerk, stopped working in July, 1957, when her physical condition precluded further employment.

Life adjustment: Up to the time of her father's death, the patient did fairly well. She is said to have been active and outgoing, she went to the shore and on fishing trips, apparently was reasonably normally related to young people—men and women. The patient states that she could have married, but that because of her closeness to her father she never considered marriage. She spent all weekends at home.

She is said to have been rather over-meticulous regarding her appearance, and was very neat and clean.

Development of patient's illness: The patient was 25 years old when her father died. *Mental* symptoms did not develop until following his death. Constipation had become troublesome when the patient was 14 years old, and amenorrhea was present from the age of 20. (Until then menses had been regular, but short—two days—and quite painful). Patient had seen a physician, without success.

Patient's father died unexpectedly, from pneumonia, following an operation. Prior to his death he had had difficulty in swallowing and vomited frequently.

The patient's illness began immediately following her father's death. At the time of the viewing it was noticed that the patient behaved as if her father were still alive. She adjusted his necktie, patted his face, his hair, etc.

After his death, she began to stay in her room by herself, wanted to be alone. She did not cry, appeared depressed, was sleepless. She continued to do her daily work as a store clerk, but at home would just go to her room, lie there and read books. She did not express feelings of guilt. To the family it looked "as if life had stopped for her." She was heard talking to her father: was her hair straight, whether he liked the dress she wore, etc. "See, Daddy, I got a new dress." She ate poorly.

After about three months—possibly in response to frequent admonitions by members of her family—she gave up talking to her father, and at once, it seems, developed the (delusional) idea of being or going to be "too fat." She bought herself every diet book she could find, started on various reducing diets, started to take laxatives and to force vomiting following meals.

She was first admitted (for four days) to a general hospital on October 3, 1954, and was readmitted (for one month) on August 27, 1955.

Findings of August, 1955: Weight 45 pounds, patient scarcely able to walk. Blood pressure 70/60. Body hair sparse. BMR—31%, EKG normal. Glucose Tolerance Test: Fasting 70 mg.%, 30 minutes 140 mg.%, 1 hour 200 mg.%, 2 hours 210 mg.%, 3 hours 140 mg.%. Glucose in urine at 2 and 3 hours. VDRL negative. Thorn Test Utilization i.v. ACTH was 44 eosinophiles/mm.³ x-ray of chest, small heart, otherwise negative. X-ray of skull negative.

Patient was seen in psychiatric consultation by Dr. Myer Marx, who reported that the patient had stated to him that she wanted to die by starving herself to death, and that she had "told her father that she wanted to die." He diagnosed a depressive psychosis, recommended ECT with Anectine. The patient received insulin medication, 30 units, three times a day, gained weight (30 pounds in three weeks). In addition she had psychotherapy. (Psychiatrist and Internist). Following her discharge under the care of her sister, insulin injections were continued until the patient weighed 100 pounds. Her preoccupation with her bowels and with "getting fat" continued. As soon as insulin medication was discontinued, she stopped eating. In July, 1957, because of renewed loss of weight (—25 pounds) and the appearance of a large rectal prolapse, she was readmitted to the general hospital. On a renewed regime of subcoma insulin and psychotherapy, she gained 10 pounds, then lost her gained weight within three months. (In October 1957, when the second stage of her two-stage operation for prolapse repair was done, she was "childlike, regressed," had lost 10 pounds). Gradually the difficulties within the family became marked. The

patient's brothers and sisters, fond of the patient and feeling sympathetic towards her, nevertheless felt that her presence in their homes ruined their family life, "It is bad for the children."

By March, 1958, she had lost another 10 pounds (weight 60 pounds) and was again hospitalized (5th admission). In psychiatric consultation, she was seen by Dr. Bongiovanni, who stressed low intellectual capacity, passive dependency and a depressive reaction. There was some improvement on a regime of insulin and Marsilid medication, but in June, 1958, when she again appeared depressed and did not eat, commitment was considered (but not carried out).

Her mother arranged for her commitment here on December 31, 1958.

Personality: As a young child, bright and quick, she was later on well-liked, even-tempered, considerate, unselfish. The mother describes the patient as quiet, not given to much talk, with no special hobbies or interests. She has no close friends. She is somewhat perfectionistic regarding her appearance, neat and diligent around the house. It has been stated that the patient has no sense of humor, she is relatively dull though apparently not intellectually defective. She has always been quite feminine.

Admission and Progress: At the time of admission the patient appeared neglected, dirty and unkempt. Physical examination showed her to be of asthenic build. She was grossly emaciated (admission weight 52 pounds), dehydrated and pale. Two abdominal surgical scars were noticed. The blood pressure was 84/50. Deep tendon reflexes were sluggish.

Laboratory Studies: X-Ray of chest and skull negative. Electrocardiogram—(January 5) Sinus bradycardia 32 per minute, QT interval prolonged. (February 24) Rate 60 per minute, general T-Wave improvement. Electroencephalogram—Routine 16 lead EEG slow in all leads, sleep reveals flattening and also complete extinction of the record (after 4½ grs. Sodium Seconal—pulse and respiration depressed and the patient in coma). Glucose Tolerance Curve: Fasting 58.0 mg.%, 30 minutes 80.0 mg.%, 1 hour 114.0 mg.%, 2 hours 116.0 mg.%. Blood count (January 28)—Red blood count 3,450,000, Hemoglobin 12.0, 17-Ketosteroids 3.6 mg./24 hour urine. Corticoids (Adrenal Cortical Hormones) 2.9 mg./24 hour urine.

Mental Condition on Admission: Personality features observed when the patient was greatly regressed were: the patient is a neglected, untidy, emaciated woman, superficially cooperative and compliant, who speaks with a rather quiet, low voice, is over-controlled, never smiles, is very rigid, coldly polite but covertly resistive, negativistic,

resentful and endlessly argumentative. Everything that is being discussed with the patient becomes the topic of an argument, the patient making her points in an apparently indifferent and emotionally uninvolved fashion and at the same time holding on to her points of view with tremendous tenaciousness. Somewhat restless and depressed, rarely openly hostile but usually trying to manipulate people and situations by being sly, cunning and insincere. Apparently bent on using such issues as food intake, dieting, vomiting, gain of weight, etc., to out-wit, out-argue or defy the therapist and making use of her own condition as a lever to overpower and frustrate him.

Features of Psychosis: Along certain lines, the patient has been utterly irrational. Her distortion of her body image constitutes delusional thinking. The patient wishes to reduce her weight by dieting, by the use of laxatives and by self-induced vomiting, in spite of her admission weight of 52 pounds and one later weight of 48 pounds. "I was unable to sleep, worried about gaining too much weight." "Food is supposed to make your body healthy, strong and well—that is what my body needs," and almost in the same breath: "starving oneself to death is not suicide." Illusions or hallucinations were neither noticed nor reported. The patient has been enormously negativistic, and resistive and obstructive to all counsel and manipulation, though she resisted in a sly, underhanded and indirect fashion rather than with open defiance.

Somatic Therapy: Attempts to persuade the patient to take sufficient nourishment and not force vomiting failed due to her determination to be uncooperative and tube feedings were tried and given up when the patient continued to force vomiting. For some time, she received parenteral medication with vitamins, stilbesterol, meticorten and thyroid. A course of 9 electro convulsive treatments was given to the patient between February 26 and March 25 with less than satisfactory results. The patient remained demanding, irrationally manipulative and deluded. Subcoma insulin therapy was started on March 18 and was continued until May 15 (50-60 units of insulin per day). The patient gained a good deal of weight, her mental attitude, however, including her delusional ideas, remained unchanged. She continued to provoke vomiting after meals. On May 3, the patient started a course of Compazine medication and since then she has been receiving 15 mg. of Compazine, b.i.d.

Present Condition: Physical: Greatly improved. Present weight above 80 pounds. Mental: Only mildly improved in the sense that the patient is less slow, rigid and hostile and less openly negativistic (though she now frequently "cannot remember"). She is more friendly and talkative

but remains delusional, still believing that she will be "too fat" and that she will have to continue on reducing diets. She still tries to force vomiting whenever she thinks herself unobserved. She continues to be manipulative.

Regarding the onset of her illness following her father's death, she has stated the following, "I knew my father had died but made myself believe he was not dead. I knew he was dead but felt that he had never gone. I hoped life would go on as before and that he was not gone. I wanted to feel he was not gone." She states that she at no time heard her father's "voice." She mentions his worried attitude "He had always worried—I wanted him not to worry about me. He was not to worry, just to rest." The patient sees some connection between her father's terminal symptoms of vomiting and inability to swallow and the development of her own symptoms, the patient's statements here being entirely unsolicited. "Because he could not eat (he wanted to eat so badly) I could not keep my food down. I did not want to eat because father would not eat. I felt I should stop eating because he did. I wanted to throw up, too."

SUMMARY

I would like to conclude my paper with a short discussion of some of the features of our case:

As far as the incidence of mental illness in the family tree is concerned, it can be stated that tainting of the family trees with mental illness in cases of anorexia nervosa is common. Of the 15 cases reported by James H. Wall, 9 had one parent mentally ill. The incidence of manic depressive reactions in relatives of our patients may be of interest in view of the fact that the patient's illness began as an abnormal grief reaction and for some time was thought to be a (psychotic) depressive reaction.

The onset of the patient's illness immediately following the death of her father makes our case one of those where anorexia nervosa developed out of grief reactions. The similarity of the mode of existence in anorexia nervosa and severe grief has been considered by M. Heidegger and cases of this kind, according to Heidegger, can be understood on this basis.

Pierre Klotz and P. Lumbroso, on the other hand, relate the onset of anorexia ner-

vosa to the individual's inability to, at a turning point of life, adapt to significant changes of the life situation. Such a turning point of life may be the passing from childhood to adulthood, or the loss of a parent, changes in the material situation, etc. They believe that in mental anorexia there is then characteristically an inherent weakness of the adaptive mechanism, an inability to create a new equilibrium in the cortical processes. They point out that in the Pavlov dog, the breakdown of adaptive function leads to diffuse cortical inhibition with loss of all appetite in the sense that ordinary stimuli lose their effect ("abiorrexia"). Insofar as it is the task of adaptation to create new cortical equilibria, weakness of the capacity for adaptation of the subject may be the primordial factor for the development of the reaction. In addition, external factors, e.g. the complexity of new situations and the multiplicity of changes required may be powerfully operative.

It should not at all be difficult to relate our patient's history and fate to this concept. Limitations of intellect, of personality configuration (perfectionism and dependency) and education should have limited her capacity to adapt. The difficult relationship with her mother and the patient's state of dependency require adaptation to a difficult new situation.

Our patient's relationship with her mother is dominated by the mother's remarkable unattractive and difficult personality. The patient's ambivalence of feeling and her hostility directed towards the mother can readily be understood. It is stated that in cases of anorexia nervosa, because of the patient's dependency experience, ambivalence and hostility are expressed by oral incorporative fantasies rather than in more direct form. The patient's close relationship to her father will have intensified these feelings and may have introduced factors of guilt.

The position of amenorrhea in the development of her illness warrants being mentioned. It is usually assumed that the

onset of amenorrhea occurs sometime after the onset of anorexia. Roland Kuhn distinguishes between a primary and secondary type of amenorrhea in this condition but is also inclined to have the anorexia precede the amenorrhea. Klotz and Lumbroso, on the other hand, believe that in the majority of cases, amenorrhea precedes anorexia. This is beyond any doubt the case with our patient where the time interval is in the order of several years.

Lastly a word about the question of psychosis present in these patients.

James H. Wall finds that the majority of these patients are unable to relate to others, that their affect is flat, that they lack drive and sustained effort and that their attitude towards food is delusional. He is, therefore, inclined to class his cases as cases of *Simple Schizophrenia*.

Following the death of her father, our patient would seem to have entered a state of autistic, dereistic, non-acceptance of reality. This, plus the severe continued distortion of her body image and the presence of rather fixed delusions, indicated our patient as psychotic. Severe regressive changes of the personality configuration may be powerfully motivative.

The refusal to accept new situations and the break with the past is possibly best expressed with the remarks made by one of the patients mentioned by Pierre Klotz and P. Lumbroso. "*Refusal of living is my only way to maintain my past. If I give up this refusal to live, I kill the past the second time.*"

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+ Editorials +

Medical Society of Delaware

Plays Important Role

In Progress for the Mentally Retarded

Seven years ago a special committee of the Medical Society of Delaware presented a report entitled "*Mental Deficiency, A Vital Community Problem.*" The report was prepared by two psychiatrists and three pediatricians. Dr. M. A. Tarumianz of the Delaware State Hospital at Farnhurst was the Chairman. The other members were Dr. Albert I. Ingram, psychiatrist of Wilmington; Dr. Edward T. O'Donnell of Wilmington; Dr. John B. Baker of Milford, and Dr. Arnold H. Williams of Laurel—pediatricians.

This report was a very thorough analysis and evaluation of the problems involved in the care and treatment of the mentally retarded in Delaware in the facility then known as the Delaware Colony for the Feeble-minded, located in Sussex County near the village of Stockley. This "first carefully considered, scientifically prepared and seriously presented discussion" of the care and treatment of the mentally retarded citizens of Delaware aroused public opinion which, in less than three years, culminated in action by the General Assembly. On June 30, 1955, His Excellency, J. Caleb Boggs, Governor of Delaware, signed into

law Senate Bill 419, abolishing the Delaware Commission for the Feeble-minded and transferring its functions and facilities to the State Board of Trustees of the Delaware State Hospital. Later that year the Legislature changed the name of the institution to its present title, Hospital for the Mentally Retarded, at Stockley, Delaware.

The Board of Trustees, through the Superintendent—Dr. M. A. Tarumianz—and his staff, began immediately the reorganization of the institution. Public opinion and interest were elicited through the participation and support of parents of patients, physicians throughout the State, the Mental Health Association of Delaware, other active adult groups, and the community in general. Expansion of the staff, reclassification of the patients, individual and group psychotherapy, psychological and religious counselling, training for attendants, the organization of pre-kindergarten classes, other clinical and medical reforms, improved the care and treatment of the patients.

Other immediate problems received attention. The physical plant was deteriorating and inadequate. Projects for remodel-

ling various cottages and other buildings were initiated. Plans were approved for the construction of a Mental Hygiene Clinic Building and a Medical Center, and funds were appropriated by the 118th General Assembly to match funds made available by the Federal Government. The first unit completed under this program was the Mental Hygiene Clinic Building, designed to make available to the citizens of Kent and Sussex Counties, psychiatric and psychological diagnosis, consultation, and therapy.

The movement toward improvement of facilities for the care of the mentally retarded in Delaware, which was started by the Delaware Medical Society in 1952, reached another milestone on June 11, 1959. On this date the principal facility of the Hospital, a building completed at a cost of \$940,000 was dedicated in an impressive ceremony. The building was named the Dr. M. A. Tarumianz Medical Center. In the name chosen for the building, Delaware, through the action of the State Board of Trustees, pays tribute to one of the members of the fact-finding committee of the Delaware Medical Society and the person who, for more than forty years, has been laboring to improve the care and treatment provided Delaware's emotionally disturbed, mentally ill, and mentally retarded. At the dedicatory ceremonies, felicitations were given by the Governor of the State of Delaware, the President Pro-tem of the Senate and the Speaker of the House of the Delaware General Assembly, the President of the State Board of Trustees, the President of the Medical Society of Delaware, the President of the Mental Health Association of Delaware, and the President Elect of the American Psychiatric Association, who also represented the National Institute of Mental Health.

The guest speaker of the occasion was Dr. Kenneth E. Appel, Professor of Psychiatry of the University of Pennsylvania Medical School. A brief historical statement was made by Former Governor John A. Townsend, who had appointed the original Delaware Commission for the Feeble-minded

and had signed the bill creating the Delaware Colony for the Feeble-minded. Dr. Tarumianz spoke to the assembled guests of experiences in his years of administering to the mentally ill and handicapped in Delaware.

The Master of Ceremonies was the Secretary of the State Board of Trustees. The Bishop of the Episcopal Diocese of Delaware offered the invocation. A Monsignor, representing the Bishop of the Catholic Diocese of Delaware, gave the Benediction.

THE NEW MEDICAL CENTER

The Dr. M. A. Tarumianz Medical Center provides for adults and children (1) a diagnostic and therapeutic out-patient Mental Hygiene Clinic, (2) research facilities for the study of the problems of the mentally retarded, (3) facilities for training personnel for various services of the hospital, (4) residential facilities for the care and treatment of 150 adult and child patients. The hospital section offers complete major and minor surgical facilities, a dental clinic, a radiology section, a clinical laboratory, an electroencephalography suite, a pharmacy unit, and other necessary ancillary services.

The Delaware State Medical Journal congratulates the State of Delaware for adding to its facilities for the care and treatment of the mentally retarded, this most modern well-equipped building—the Dr. M. A. Tarumianz Medical Center. The *Journal* further congratulates the State Board of Trustees on honoring during his life-time, M. A. Tarumianz, M.D., a past president of the Medical Society of Delaware, a loyal citizen who has devoted his long career to improving the mental and physical health not only of the people of Delaware but of the larger community as well.

“The Dr. M. A. Tarumianz Medical Center is part of a bold, challenging plan that will not only elevate the intra and extra mural care of mentally retarded in Delaware but also will pioneer in research in this vital field of medical and psychiatric science.”

SOCIOPATHIC BEHAVIOR

● Sociopathic behavior, when properly applied in referring to juveniles, is a term better known as juvenile delinquency. Constant efforts of society, to try to induce the outlaw to live within the law, must be kept going. 100% successes cannot be expected but those successes that occur are a just compensation for efforts that lead youth into a channel of life which will guide it to good citizenship.

A. W. GOTTSCHALL, M.D.*

What is a juvenile delinquent? Delinquency is a term which is used in reference to minor offenses against the culture with which the individual is expected to conform. These juveniles, who are usually between the ages of 10 and 20, show certain behavior patterns that vary greatly from what is normal for other youths of their age. These tendencies may or may not be psychotic or neurotic or both, but they are definitely antisocial. They do not include those mischievous activities that are usually expected of young folk as they go through the various stages of physical, mental and social development. Certainly

this period of life wherein one changes from childhood to manhood or womanhood, requires adjustments and new understanding, but the juvenile delinquent seems to take great delight in aggravating his emotional excitement to a perverted degree. This becomes a fixed pattern so that he is a prisoner of his own behavior, often he cannot escape from it. Many times he delights in being a cruel, morbid individual, breaking laws and rules of social conduct. He does not seem to be able to enjoy life in a normal way, rather he finds it necessary to get a kick or emotional satisfaction through abnormal and artificial means. He sometimes turns for this purpose to narcotics, intense sexual activity (often through per-

*Psychiatrist II of the Delaware State Hospital.

version), strong drink, lawlessness and sadism. This becomes a way of life for him.

CULTURE VS. DELINQUENCY

The English statesman Burke once said, *"Tell me what are the prevailing sentiments that occupy the minds of your young men and I will tell you what is to be the character of the next generation."* All of us must realize the idealism of youth, the great dreams, hopes, and aspirations which are the impetus to action. This eager idealism of the young insists on perfection and this is a good thing for it is the spur which helps eliminate injustice, but idealism without the check reins of knowledge and sound judgment may take one on a short cut to disaster. There is always an element of rebellion toward authority in the young. Every child is eager to reach the age when he can make his own decisions, when he doesn't have to do what he is told. That which is new and novel holds great appeal for the immature rebellious youth particularly if it differs from traditions.

In adolescence, the idea that the criminal is a sick man rather than an evil one has been one of the chief courtroom issues of modern times. The ancient stubborn mass of doctrine known as the law has understandably been slow in giving ground to the sick man theory. The latter is revolutionary even if it is more than a hundred years old. The theorists and medical psychologists, have not enjoyed much public sympathy. Popular understanding has been clouded by professional vocabulary and the fact that doctors like everybody else are apt to disagree. The layman often finds it hard to grasp how one psychiatrist can find a criminal mentally ill while another expert might be willing to send him to punishment and prison. The criminal law is built on the idea of punishment for itself and as a deterrent to further crime. It largely represents outworn morality.

Psychiatry works toward the cure of the criminally sick. It is moved to this not only by humane feeling but out of conviction that punishment does not deter crime.

Modern psychology since Freud recognizes the unconscious mind and understands that in the given individual there may be a welter of mixed inter-related aggressive drives between the conscious and unconscious often turning on themselves. Some men might commit a crime because they wish to be in prison. The sternest prosecutor may be full of unconscious guilt. Men who are loud in talk of justice may deeply relish the sadistic elements in punishment. The condition of delinquency among juveniles is an ever increasing topic of interest among educators, the legal profession and psychiatrist.

HOSPITALIZATION

We recognize some basic considerations—in the first place, hospitalization. The hospital in this instance is being used for the purpose of psychotherapy, hoping to increase the individual's education. Ordinarily in our public schools we expect to serve each individual juvenile according to his capacity, regardless of his race, religion, national background, social and economic condition of life or handicapping conditions of any kind. But the mental hospital is concerned in helping the delinquent juvenile patients by psychotherapy and teaching, to guide their conduct by reason, to use intelligence in reaching decisions rather than blind obedience, habit or prejudice, and to acquire a knowledge of self and of understanding of the consequences of behavior.

DELINQUENCY—A SYMPTOM

Another basic principle to be kept in mind is that delinquency is not a distinct or separate problem. Delinquency should not be considered a disease but rather as the symptom of a disease. Delinquency, like truancy, or incorrigibility is but a symptom picture of underlying conditions, the roots of which may be found in the family life, the school adjustment or the environmental background of the community and sometimes physiological and psychological aspects of the individual personality. In dealing with this sociopathic prob-

lem from the standpoint of the mental hospital or any other agency, one deals with symptoms which may have any one or more of many different causes.

FUNDAMENTAL CAUSES

Moreover in dealing with delinquency or any other symptom, one does not correct the problem until fundamental causes are found and corrected or alleviated, even though some measures may temporarily allay the symptoms. We find by our experience in this hospital, that many of these sociopathic juveniles come from broken homes or homes in which abuse, ill treatment and cruelty, instead of love, is the order of the day. We find that the lack of ordinary parental attention of the youth has been a cause for the youth's attempt to find his place in the sun — to gain recognition from his fellow juveniles — and to satisfy his gregarious instinct by associating with youths of like character. The sociopathic individual many times, due to experience he has gained from the type of environment in which he was raised, has a deep feeling of being the underdog and presumably the first law of nature, *survival of the fittest*, takes charge. In his attempt to survive, he allows his gregarious instincts to have full sway and early in life, associates himself with his own kind. The old axiom proves true, "birds of a feather flock together." But he is not usually satisfied to merely associate. In order to compensate for that feeling of being an underdog he wishes to lead the pack and in so doing, takes a great delight in performing an act which he considers one of bravery and which usually is the forerunner of petty crime such as automobile theft, breaking and entering and sometimes crimes of a sexual nature. He knows that the more daring the crime, the greater the prestige he will have with the gang. This type of behavior, regardless of his consequences, seems to be paramount in his ambition. It is a feather in his cap as far as his associates are concerned, if he has been arrested and convicted of a crime, and has served his sentence in an institution.

POOR INFLUENCES

It is noticeable while watching these patients, absorbed in watching television, that they take great delight in the criminal; in the ordinary television detective drama. They take great delight in criticizing the shortcomings of the police. They seem to care nothing for the good musical productions, travelogues or political discussions. In the broadcasting of news events there seems to be no event remembered or cared about except a crime that has been committed. The more severe the crime, the greater delight they seem to have in repeating the circumstances. These types of individuals, when first entering the criminal division of this hospital, are usually arrogant and non-committal. They adhere to the secret code of the underworld "Don't tell them anything." However, after a time and with much psychotherapy they do loosen up and portray the characteristics which have been mentioned above. It is noticeable, that misbehavior has been the main factor in their lives. They can behave if they wish to although it may be quite a strain. It is noticeable that these individuals make ideal patients if they have a promise of release in the future provided their behavior is above reproach. They are the types of people who expect much and give little or nothing. The word sympathy or affection is not to be found in their vocabulary. They often speak of their parents as one would of a casual acquaintance. Regarding their petty crime, such as petty theft, they often give back the remark, "Only fools work hard for a living." It is the type of environment in which they were raised, the type of associates they have lived with and the experience of petty theft when successful which gives them the monetary value that probably two weeks of hard work would only equal. The morality of their act is not even considered. Some patients discharged from this hospital have done fairly well. The minority have reverted to their old types and some at present are incarcerated in prison for repeated acts of a criminal nature.

TREATMENT OF HUNTINGTON'S CHOREA

With Dihydrochloride

FOR CORRECTIONS SEE

V. 31 No. 9 P. 290

CASE HISTORIES

● In each of the cases presented, treatment with Dihydrochloride was effective against the extrapyramidal hyperkinesia and had an inhibitory effect on hyperkinetic movements.

C. LAWRENCE R. SOUDER, M.D.

CASE I

Dartal treatment was started in December, 1958 on this thirty-one year old male patient. There is a familiar history of Huntington's chorea in this case. A brother and sister of the patient are also hospitalized here at the present time with this condition. Another sister is afflicted with Huntington's chorea but is not hospitalized.

This patient had had an attack of meningococcic meningitis at ten years of age and at twenty years of age. He had a medical discharge from the army in World War II and begun showing involuntary movements for the first time after his return from the army. He failed at different jobs because of slowness and lack of coordination. His condition became progressively worse during the last ten years. He had been in a general hospital just before coming here. His diagnosis there had been Huntington's chorea and malnutrition secondary to this

disease. From the general hospital he was referred to the Delaware State Hospital and was admitted here in June, 1958.

Neurological consultation in July, 1958 revealed that he had a halting gait. There were occasional extraneous movements of the arms and legs which tended to throw him off balance. There were small movements of hyperextension of the phalanges of both hands. There were purposeless movements of the head and extremities. There was some cogwheel rigidity of the upper extremities. There were some abnormal involuntary movements of the chin and mouth. The condition was disturbing to the patient, hindering his gait and normal activity.

For the past five months he has been receiving Dartal. In the beginning of the treatment he was unable to feed himself. After three weeks of treatment there were fewer choreo-athetotic and dystonic movements. He was less of a feeding problem.

*Psychiatrist IV of the Delaware State Hospital.

He was able to help himself better and was more cheerful.

He received 20mg. of Dartal t.i.d. for some weeks. At present he is receiving 40mg. of Dartal t.i.d. There are times when he is somewhat listless and drowsy. The intellectual and mental faculties show little change.

CASE II

The second case is that of a fifty-one year old male patient. In this case there was no history of Huntington's chorea but there was a background of epilepsy and nervousness. Neurological examination at the time of his admission here revealed frequent facial grimacing. There were writhings of the upper extremities, particularly of the forearms and fingers. His gait was unsteady although there was no definite evidence of ataxia. There were also inconstant signs of shrugging, flushing, extension of the limbs with twisting and turning movements of the head and trunk. He also had slow, athetotic movements of the phalanges of both hands. The condition was of a progressive nature and for a time there appeared to be some mental deterioration. He expressed numerous delusions. There was silliness, laughing without provocation and inappropriate-ness.

He was started on Dartal treatment on October 30, 1958. The dose of Dartal was increased gradually to 40mg. t.i.d. which caused drowsiness and weakness of both legs whereupon the dose was reduced to 20mg. t.i.d. which he continued to receive with improvement. By November 21, 1958 at which time the Dartal dosage was reduced to 20mg. t.i.d., he showed improved motor coordination and fewer dystonic movements. His gait became steadier. Psychiatric improvement paralleled the improvement in his neurological condition. By February, 1959 no silliness or inappropriateness was noted in his attitude and behavior. He manifested greater interest, helped with small chores on the ward, and went on week-end visits with his family. At the termination of Dartal treatment March 6,

1959, neurological consultation and psychological testing did not reveal evidence of an organic mental syndrome. The choreiform movements of the right hand and the facial grimacing although greatly diminished, had not entirely disappeared.

CASE III

The third case is that of a thirty-five year old male patient who was admitted to this hospital in January, 1945. There was a family history of Huntington's chorea. His father, who had been a patient here suffering from this condition, died in October, 1957. There were also several other family members afflicted with Huntington's chorea. In the beginning of his illness he had shown only evidence of minimal pyramidal tract involvement without much mental impairment.

Neurological consultation on November 5, 1958 prior to Dartal treatment, revealed him to have a marked extrapyramidal syndrome with athetoid, occasional choreiform and dystonic movements. Accompanying the neurological findings, there was evidence of a marked organic mental syndrome as well. The course of his illness has been gradual but progressive. He had shown more advanced symptoms of Huntington's chorea than the other two cases. The most pronounced symptoms had been rigidity of the trunk and lower limbs which was progressive. There was increasing motor incoordination, posturing and gait disturbance. Delayed response and speech difficulties were present. He has not been able to walk without support for some time.

Dartal treatment was started on this patient on November 20, 1958. He received two doses of 10mg. each on that day. The following day he received 20mg. t.i.d. The dosage was then increased within the first week to 40mg. t.i.d. There has been a lessening of the athetoid, dystonic and choreic movements although the improvement was not as marked as in the other two cases. Some athetosis and motor incoordination are still present. There was no apparent influence on the organic mental syndrome.

PRESIDENT'S PAGE

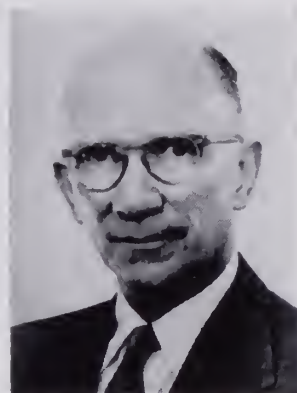
The House Committee on Ways and Means held hearings last month on H.R. 4700, better known to medicine as "*The Forand Bill*"—or the bill to give medical care to our older citizens as a benefit of Social Security. The Journal's publication schedule is such that this page is prepared before we know the results of the hearings, but our stake in them is great.

The Medical Society of Delaware asked for time to present its views on the bill to the Committee, and was granted, in common with 32 other state medical societies, two minutes in which to state its case. Because of the impossibility of presenting an adequate statement in this time, most of the societies, Delaware included, chose to waive time in favor of the AMA and to present written statements for the record.

In a five-page letter to Committee Chairman Wilbur D. Mills, I emphasized the desirability of local approaches and solutions to the problem of providing hospital and surgical services to the aged. Problems of this kind require entirely different handling than those, such as national defense, which lie beyond the legal and moral responsibilities of local government.

The testimony, naturally, was on medical grounds with which we are all familiar and may reasonably speak as experts. What I failed to present, because I felt it to be inappropriate to a medical society's statement, were reservations of another kind concerning the increasing volume of legislation of this type.

We have watched, during the last thirty years, the Federal Government usurp the role of state and local jurisdictions in many problems that are essentially the responsibility of local organizations. In the process our Federal Government has incurred enormous debts as its ambition has outrun its resources, and has crippled local government by taxation that has risen to the point where little remains for states and



their subdivisions to extract from the protesting taxpayer.

Government, let us be fair, has responded to the will of the people as their representatives have seen it. Still, the republican form of government presupposes that the elected representatives will have vision, and that without this vision, the people perish.

I do not think that vision is implicit in the constant borrowing from our grandchildren which we have undertaken to pay for services for ourselves. The Forand Bill for example, provides for services now but defers the inevitable increase in taxes until as late as 1969. At best, this is taxation without representation for the electorate which follows us. Because we cannot know the demands that may be placed upon the public purse within the next ten years, it is difficult to say what the worst might be. We may wonder, though, if the demands of a serious international emergency, added to our present commitments, could be met without raising the Government's share of gross national income beyond the 40 per cent that some economists arbitrarily use to define the socialist state.

If the Government's tendency to pour money which it does not earn into areas for which it is not responsible, is not curbed, Mr. Khrushchev's threat to bury us may require only a willingness to watch as we dig.

In Brief

Camp Washburn

This year's encampment of the Delaware National Guard at Fort Miles, has been named Camp Washburn, in honor of Brigadier General Victor D. Washburn, past president of the Delaware Medical Society. Dr. Washburn officiated at the National Guard Academy graduation ceremony this year by presenting the award of a dress blue uniform to the class honor graduate.

Contributing Factor

The British Medical Journal reports that through a study carried out in a corrective prison for teen-age delinquents, it was found that uncorrected physical defects and such cosmetic deformities as squints, misshapen noses and ears apparently contributed to juvenile delinquency. The most striking improvement was noted among those who underwent nasal remould procedures. In line with this is a new booklet entitled *As Others See Us* which has just been published by the Joint Committee on Health Problems in Education and the American Medical Association which discusses the effect of physical defects on adolescents as they bridge the gap between childhood and adulthood. Copies may be obtained at 25 cents each from the Order Department of the A.M.A., 535 N. Dearborn St., Chicago 10, Ill. Quantity discounts are available.

Certified

Dr. Thomas R. Brooks of 1103 Delaware Ave., and Dr. Rand C. Johnson of 1007 Park Place, Wilmington, were among the doctors certified by the American Board of Obstetrics and Gynecology on May 16th, 1959, when final certifications in this specialty were made.

Lye Deflector

The July 25th issue of the AMA Journal carried an article by Dr. Charles L. Miller and Dr. Robert O. Y. Warren, Wilmington, outlining a new treatment for esophageal lye burns. The co-authors maintain that lye poisoning, the 5th leading cause of poisoning in children under 19 years of age, can be absolved of serious consequences by the use of antibiotics and artificial hormones.

Van Meter Prize

The Van Meter Prize Award of \$300 given by the American Goiter Association for 1960, will go to the essayist submitting the best manuscript of original and unpublished work concerning "Goiter—especially its basic cause". The Award will be made at the Fourth International Goiter Conference in London, July 5-9, 1960 where a place on the program will be reserved for the winning essayist if he is able to attend. For 1960, the recipient will receive consideration for an award of a travel honorarium.

Duplicate typewritten copies not exceeding 3000 words, should be sent to Dr. John C. McClintock, Secretary of the American Goiter Association, 149½ Washington Ave., Albany, N. Y., no later than January 1, 1960.

Glycerine . . . and Vodka

Skin care Russian style gives a new twist to glycerine and rose water behind the iron curtain. An article appearing in the March issue of "Robotnitsa" (Woman Worker) on facial skin care offers this suggestion: "It is desirable to rub the skin once or twice a day with fortifying substances e.g. 2 g. hydrochloric acid, 10 g. glycerine, 70 g. mint water and 30 g. vodka."

New VP

Dr. George J. Boines was recently elected Vice-President of the Interstate Post-Graduate Medical Association of North America.

Dr. Boines was also speaker for his class—Jefferson Medical College, '29 — at the 30th reunion this June. He gave "Diagnosis of Viral Diseases and Evaluation of Pulmonary Function" — an article of his which appeared in the Journal — as his subject.

Alarm

According to Dr. Gerald A. Beatty, in the Delaware TB News, the group of diseases ranking first in the causes of death are related to the heart and the circulatory system. More than half of the deaths during 1954-1956 can be grouped under the broad heading of disease and the failure of the cardiovascular system, with deaths from diseases of the respiratory system accounting for almost a tenth. Respiratory diseases as a group are one of the most serious health problems confronting the nation today, ranking as a cause of death. However, it is as a cause of illness that this category assumes its full stature.

A recent National Health Survey report reveals that the acute respiratory conditions such as colds, influenza and pneumonia, are the most frequent of acute conditions. Dr. Beatty, President of the Delaware Anti-Tuberculosis Society, points out that their prevalence and the numerous question marks that surround them provide a real cause for alarm and for focusing our attention on them.

Decision

Of interest to the medical profession, are Superior Court Rulings regarding the test cases of Dr. Davis G. Durham, eye specialist and surgeon, who conducts a small percentage of his practice within the city although his offices are outside the city limits — and Dr. James B. Dukes, an associate in Delaware Hospital's radiology department. Both doctors, indicted by city solicitor, Stewart Lynch, for failure to procure city licenses, were ruled by Judge Andrew D. Christie, to be physicians practicing medicine within the city and therefore subject to the city's licensing law.

The Court defined practice within Wilmington:

"A doctor is practicing medicine if his services constitute what is generally understood to be practice of medicine and are available to those needing them. . . . the arrangements between such a doctor and his employer do not alter the situation."

Honors For

DYNAMICS OF PHAGOCYTOSIS

A Medical Teaching Film

Research and Cinephotomicrography Armine T. Wilson, M.D.
of the Alfred I. DuPont Institute

Script and Direction Leo L. Leveridge, M.D.
of Pfizer Laboratories

Protagonists: Group A Streptococci
Human Neutrophils in vitro

The film shows what actually happens when streptococci and neutrophils interact, and by reporting recent research, brings up-to-date the basic knowledge that physicians acquired in medical school.

The Dynamics of Phagocytosis, which was first shown at the December meeting of the Academy of Medicine, has been making a name for itself both here and abroad.

The film was a collaborative undertaking by Pfizer Laboratories and the Alfred I. duPont Institute, under the direction of Dr. Armine T. Wilson who since 1950, has been casting new light on the old problems of phagocytosis.

After earning the distinction of being one of the ten films selected for exhibition at The American Film Festival (New York City, April 1-4, 1959), it was entered in the annual film competition of the Biological Photographic Association and achieved the highest points of all film entries in all classes, first place award-Professional Teaching Class and the Biological Photographic Association Medical Education Award. Recently, at the Venice Film Festival held in Italy, July 2-12, where it was accepted for exhibition, it was honored as one of the 13 American motion pictures in the 'Science and Didactic Film' category.

Coming of Age...

More than 500 persons gathered in Washington, D. C., in June to encourage the expansion and improvement of health care facilities for the nation's aged population. Dr. Bernadine Z. Paulshock represented the Medical Society of Delaware at the conference, which was sponsored by the Joint Council to Improve the Health and Care of the Aged. At the National Leadership Training Institute for the Aged held in Ann Arbor, Michigan and sponsored by the U.S. Dept. of Health, Education and Welfare, Dr. John J. Lazzeri attended as Governor's representative from this state and as delegate of the Medical Society.

It has become a recognized fact that the significance of the longer life span has a powerful impact on individuals and society. The Council stated that 9% of the nation's population is now 65 and the percentage is growing.

WOMAN'S AUXILIARY

Library Project Plays an Important Role

In the Lives of the Mentally Ill

The Woman's Auxiliary to the New Castle County Medical Society presents the following report as a representative volunteer service included in its full yearly program.

The Library Committee, which has been in operation for the past three years, feels that this account of one volunteer's reaction, points up the value of this activity in the lives of the patients in our State Hospital.

A VOLUNTEER'S REASON FOR HELPING THE MENTALLY ILL

For the past three years, as a representative of the New Castle County Medical Society Auxiliary, I have served as a volunteer at the Delaware State Hospital.

The Hospital magazine *T-Times* recently had a "Letter to the Editor" which impressed me very much and is the inspiration for my comment on the weekly activity of serving the Hospital as a Volunteer. The letter said, in part, "*I suggest the following wall motto for the Receiving Wards — LET ALL WHO ENTER HERE FORGET THE THOUGHT OF FEAR.*"

I recalled my first experience in serving the wards with the book cart. There were locked doors and I had to wait each time until the attendant could let me out. On my way home I began to realize how it would feel to be "locked in" and how much it would mean to see someone from the "outside" coming in to bring books, magazines and a gay greeting to me. Any thought I might have had of "fear" disappeared immediately.

Illness made it necessary for me to be absent for a month or so and when I went back I was greeted by a group of patients cheering and dancing around. "Are we glad to see YOU again! Yes, we are!" There was no room for fear, I can assure you—just happiness that the patients really appre-

ciated the little that could be done for them.

Perhaps the doors *are* locked, but that doesn't disturb me one bit. Sometimes I am invited into the kitchen for a glass of juice or a cup of coffee while I am waiting to leave and the patients are so glad to have me with them.

While the books and magazines I take on the wards are important, the fact that I appear (as someone from the outside) is more important. It is the smile, the laughter, the giving of yourself that is important. It is the response you feel as you make the rounds, that brings home the understanding and love found in people. You realize fully then, that these mentally ill patients are people. They have within themselves the goodness found in most people and your presence helps them find it.

During the past year, our Auxiliary's Library Committee, headed by Mrs. Gerald O. Poole—a trained librarian—has had 23 members who have contributed 287½ hours to the Library. Mrs. John Howard is the incoming chairman for next year.

The Library Committee purchased the cataloguing equipment which has been valuable in cataloguing not only new books but those worthy of keeping which have been on the shelves. The Auxiliary, in addition to purchasing book ends and a new desk dictionary, has kept the book cart circulating books and magazines throughout the wards.

We are also continuing our collection of recent magazines and books so that those on the "inside" may be kept in contact with the "outside"—and this is our contribution of happiness which overcomes fear.

MRS. MORRIS HARWITZ

Chairman of the A.M.E.F.

REPORT

A.M.A. HOUSE OF DELEGATES MEETING

● Delaware's Delegate presents a brief resumé of actions taken on major issues put before the House of Delegates at the 108th Annual Meeting held in Atlantic City from June 8-12, 1959. For details consult the complete report to be compiled by the American Medical Association.

H. THOMAS MCGUIRE, M.D.

Thirty-eight resolutions were presented to the House, covering many of medicine's problems in both the scientific and socio-economic fields and involving four major issues which will affect the practice of medicine on national and local levels for many years to come. These were social security for physicians, relations between medicine and osteopathy, preparation for general practice, and third party plans as reported by the Commission on Medical Care Plans.

Social Security

The issue of social security for physicians arose from three resolutions seeking compulsory coverage for physicians, one resolution seeking a national poll of physicians on the issue, and a fifth opposing compulsory coverage of private practitioners in the OASDI program. In the Reference Committee on Legislation and Public Relations, to which all five resolutions were referred, twenty-eight witnesses appeared to oppose physician-inclusion, while five spoke for participation in social security by private physicians. The Reference Committee saw the interest of physicians in social security primarily as an interest in economic security

and suggested that the AMA explore private programs for providing this type of security without recourse to governmental programs.

The Committee gave considerable weight to the possible effects on its other legislative activities of a reversal of the Association's stand on social security. There appeared to be considerable concern about the effect of demanding social security on the one hand while opposing the extension of benefits through such measures as the Forand Bill on the other. In committee, several members of the AMA's Council on Legislative Activities stated, as individuals, that a considerable undermining of medicine's effectiveness could result from a reversal of this stand.

In receiving testimony that few physicians retire at the age sixty five, it was pointed out that the majority, if covered by social security, would not be eligible to draw benefits until reaching the age seventy-two although taxation would continue to that age. The Committee also received a comparison of social security benefits with those obtainable through term insurance, with specific reference to the decline in potential benefits under the OASDI program

as children mature, as compared to the level benefit or declining premium principle of term insurance.

Finally, the Reference Committee gave weight to what it considered the rights of a very substantial number of physicians (whether or not a minority) who are violently opposed to compulsory inclusion within the social security system.

On the basis of these deliberations, the Committee recommended the adoption of a resolution, opposing compulsory insurance in the social security system for private physicians. The House of Delegates, by a considerable majority, adopted this recommendation.

Relationships between medicine and osteopathy

On the basis of information provided by the Judicial Council of the AMA, which had been instructed by the House of Delegates at its December, 1958 session to review the laws and practices of the various states regarding osteopathy, the Reference Committee brought in a report revising the tenets of the AMA regarding cooperation between doctors of medicine and doctors of osteopathy. This report was subject of lengthy debate on the floor of the House which resulted in the adoption of the following policy by the House of Delegates to govern the relationships in question.

Professional associations between doctors of medicine and those who practice a system of healing not based on scientific principles are deemed unethical. Constituent associations, by an enactment of medical practice acts, shall require all practicing physicians and surgeons to take identical examinations and meet identical qualifications in schools approved by the same agencies.

The action of doctors of medicine who teach in osteopathic colleges is not considered contrary to the principles of medical ethics if the college is in the process of conversion to an approved medical school

under the supervision of the Commission on Medical Education and Hospitals. The House requested that a liaison committee be set up by the Board of Trustees of both the AMA and the AOA, if mutually agreeable, to consider problems of interest to both groups on a national level.

The amended statements regarding teaching in osteopathic colleges and liaison on a national level arose from a general atmosphere of acceptance of the desirability of upgrading the standards and eventually absorbing into medicine, schools of osteopathy, tempered by reservations of two general types. First, the house wished to be absolutely sure that cooperation with osteopathy was genuinely desired by the A.O.A. before offering cooperation which might be construed as interference. Secondly, the House wished to be as sure as possible that cooperation be on a legitimate basis on both sides, and that a solution of the problems posed by the differences in the two disciplines be genuinely in prospect.

Locally, these actions should be considered together with the action of the Council of the Medical Society of Delaware taken in February, 1959, declaring that consultation with a legally licensed doctor of osteopathy is ethical providing that the patient under care of a doctor of osteopathy is in immediate need of information and/or skill possessed by the doctor of medicine and not possessed by the doctor of osteopathy.

Preparation for General Practice

The report of the Committee on Preparation for General Practice, established in November of 1956 and incorporating representatives of the AMA's Commission on Medical Education and Hospitals, the American Academy of General Practice, and the Association of American Medical Colleges, was adopted in its essentials. The report specifies that proper preparation for general practice in the future shall include a two year internship, of which eighteen months are devoted to medicine and pediatrics and six months to elective

subjects. It is expected that at least four months of the six elective will be devoted to obstetrics and gynecology if the physician intends to practice in these fields. This policy, as adopted, contains less provision for training in surgery than the American Academy of General Practice has considered desirable. A general practitioner of the future who plans to do surgery beyond these fields will be expected to receive further and special training to increase his competence. The Reference Committee emphasized that although these requirements have no particular bearing upon the general practitioner in practice today, they will better equip the general practitioner of the future for his role in medical practice.

Third Party Plans

Consideration of Third Party Plans involved detailed study of the report of the Commission on Medical Care Plans, (available to the members of the American Medical Association as a special edition of the Journal of the AMA, dated January 17, 1959.) This report is a technical and highly detailed study of medical care plans of several types, from the closed panel plans through and including those plans in which any legally licensed physician may participate. This report was considered sufficiently important to justify the establishment of a special reference committee to consider the report of the Commission on Medical Care Plans, of which Dr. John S. DeTar was chairman. Dr. DeTar's committee sat for approximately six hours, and heard many witnesses speaking for and against the type and quality of care inherent in closed panel plans. As a result of this testimony, the Committee recommended and adopted the following statement of policy, a new and important part of the AMA stand on medical care plans.

"The American Medical Association believes that free choice of physician is the right of every individual and one which he should be free to exercise as he chooses.

Each individual should be accorded the privilege to select and change his physician

at will or to select his preferred system of medical care and the American Medical Association vigorously supports the right of the individual to choose between these alternatives."

Basically, this constitutes the AMA's answer to the question posed by its House of Delegates in Minneapolis in December of 1958, which demanded of the constituent associations whether freedom of choice of physician must be considered a sine qua non of medical care under all circumstances and without qualification.

Concerning the attitude of medical societies toward physicians who participate in third party plans, the Association's answer was less clear. Acceptance of the fact of participation must come with recognition of the plan itself. The AMA recommended that constituent associations review such attitudes, legislation, and policies as may exist within their states.

HIGHLIGHTS

The retiring president, Dr. Gunnar Gundersen, addressed the meeting and laid particular emphasis on the obligation of physicians to practice "1959 medicine."

The incoming president, Dr. Louis M. Orr of Orlando, Florida, in his inaugural address, urged physician participation in community affairs. An address by President Dwight D. Eisenhower, dealt largely with the subject of inflation, calling it the greatest present threat to the free enterprise system. Dr. Michael E. DeBakey of Baylor University received the Association's Distinguished Service Award for his major contributions in the field of cardio-vascular surgery.

At the concluding session of the House of Delegates, Dr. E. Vincent Askey of Los Angeles, who served some years as speaker of the House, was elected President-Elect for the coming year, Dr. James S. Kenney of New York became Vice-President, Dr. Norman A. Welch of Boston, Speaker of the House and Dr. Milford O. Rouse of Dallas, Vice-Speaker.

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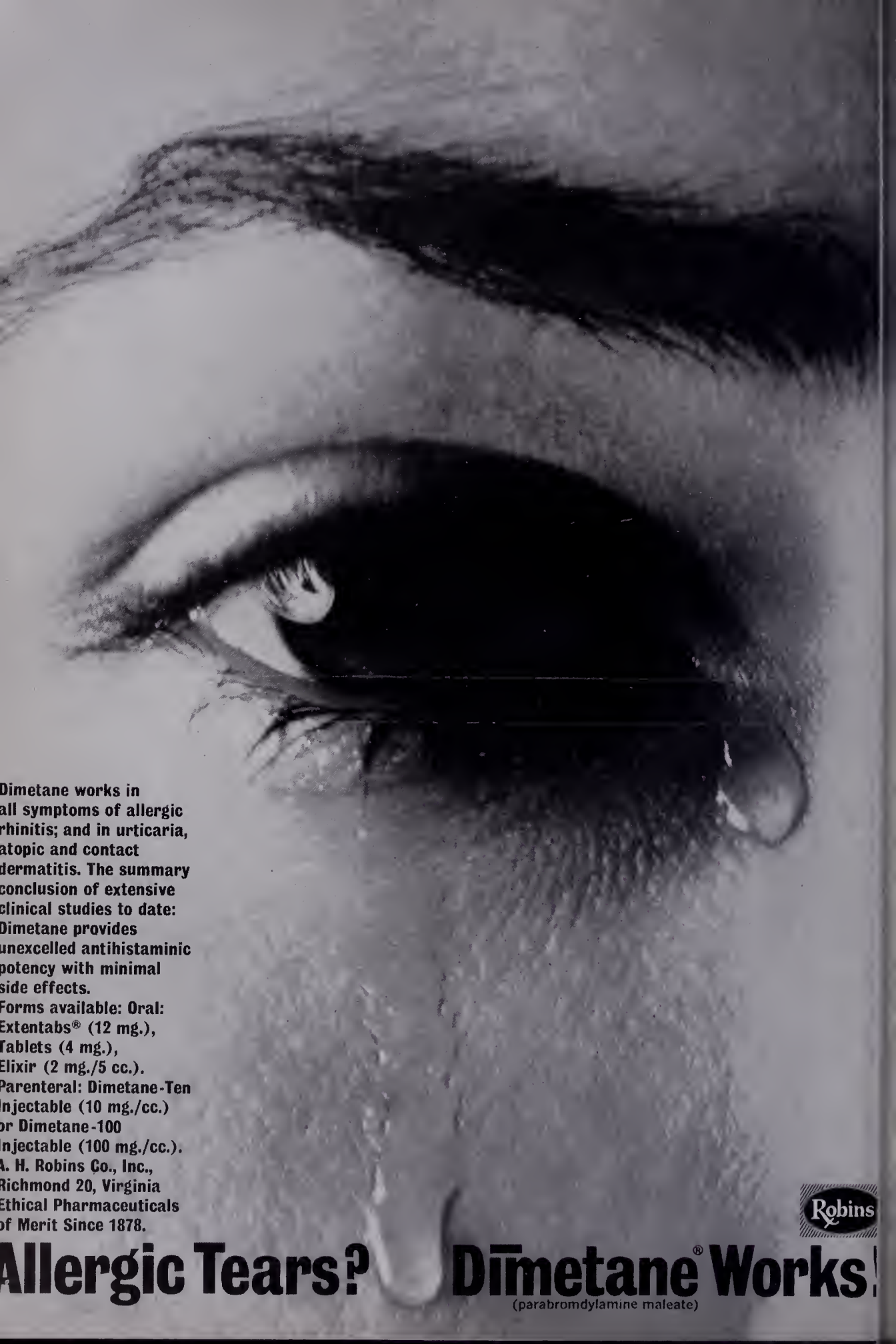
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Patient M.S., 81, at the time of the first visit was in severe pain and very uncomfortable. Complained of swelling of wrists, legs and various joints; pain and stiffness in cervical area and lower spine; pain, swelling and limited motion in the fingers; slight ulnar deviation of the hand. M.S. demonstrates position necessary to put on his hat (motion was so restricted that he could not comb his hair).

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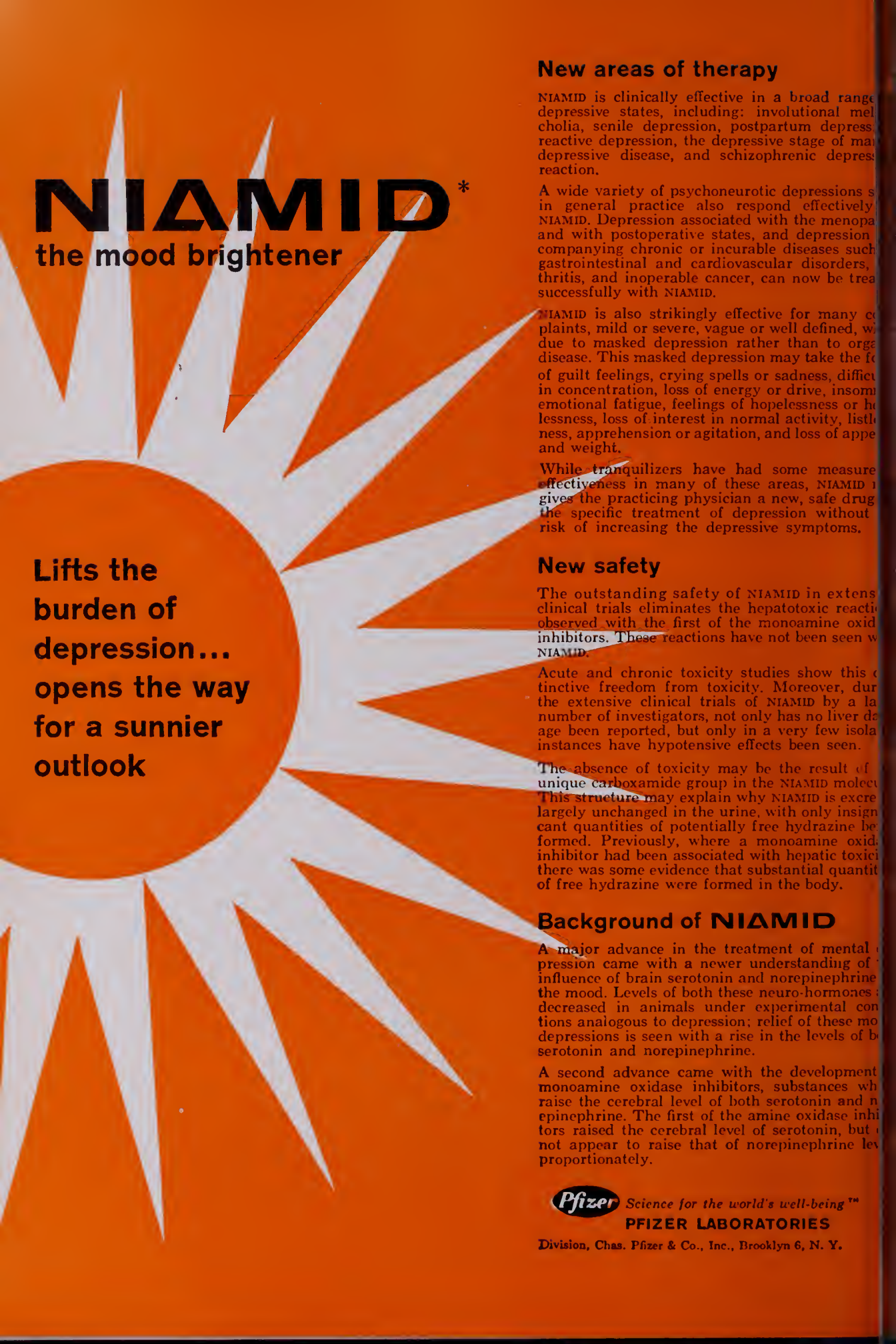
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SUPPLIED: GAMMACORTEN Tablets,
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NIAMID is clinically effective in a broad range of depressive states, including: involuntional melancholia, senile depression, postpartum depression, reactive depression, the depressive stage of manic depressive disease, and schizophrenic depressive reaction.

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While tranquilizers have had some measure of effectiveness in many of these areas, NIAMID gives the practicing physician a new, safe drug for the specific treatment of depression without risk of increasing the depressive symptoms.

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The outstanding safety of NIAMID in extensive clinical trials eliminates the hepatotoxic reactions observed with the first of the monoamine oxidase inhibitors. These reactions have not been seen with NIAMID.

Acute and chronic toxicity studies show this distinctive freedom from toxicity. Moreover, during the extensive clinical trials of NIAMID by a large number of investigators, not only has no liver damage been reported, but only in a very few isolated instances have hypotensive effects been seen.

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Background of NIAMID

A major advance in the treatment of mental depression came with a newer understanding of the influence of brain serotonin and norepinephrine on the mood. Levels of both these neuro-hormones are decreased in animals under experimental conditions analogous to depression; relief of these mood depressions is seen with a rise in the levels of both serotonin and norepinephrine.

A second advance came with the development of monoamine oxidase inhibitors, substances which raise the cerebral level of both serotonin and norepinephrine. The first of the amine oxidase inhibitors raised the cerebral level of serotonin, but did not appear to raise that of norepinephrine level proportionately.

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Attention at Pfizer Research was then directed to a new drug that would overcome this disadvantage. NIAMID significantly raises the cerebral level of both serotonin and norepinephrine under experimental conditions.

The dramatic discovery of NIAMID now makes available an extremely effective, safe antidepressant for the successful treatment of a full range of depressive states.

Precautions

Side effects are most often minor and mild manifestations of central nervous system stimulation, modifiable by reduction in dosage; these may take the form of restlessness, insomnia, headache, weakness, vertigo, dry mouth, and perspiration. Care should be taken when NIAMID is used with chlorothiazide compounds, since hypotensive effects have been noted in some patients receiving combined therapy—even though hypotension has rarely been noted with NIAMID alone. There has been no evidence of liver damage in patients on NIAMID; however, in patients who have any history of liver disease, the possibility of hepatic reactions should be kept in mind.

Dosage and Administration

Start with 75 mg. daily in single or divided doses. After a week or more, revise the daily dosage upward or downward, depending upon the response and tolerance, in steps of one or one-half 25 mg. tablet. Once satisfactory response has been attained, the dosage of NIAMID may be reduced gradually to the maintenance level.

The therapeutic action of NIAMID is gradual, not immediate. Many patients respond within a few days, others satisfactorily in 7 to 14 days. Some patients, particularly chronically depressed or regressed psychotics, may need substantially higher dosages (as much as 200 mg. daily has been used) and prolonged administration before responses are achieved.

Supply

NIAMID is available in: 25 mg., pink, scored tablets in bottles of 100; and 100 mg., orange, scored tablets in bottles of 100.

References

Complete bibliography and Professional Information Booklet are available on request.

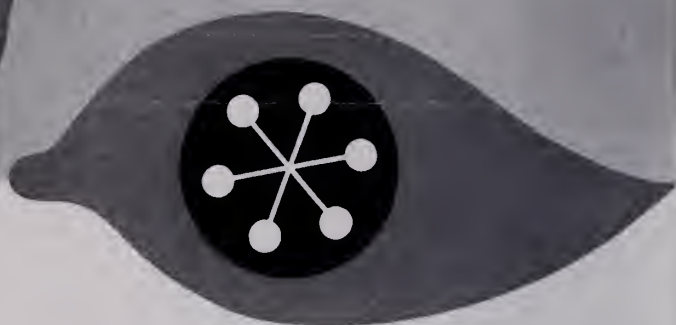
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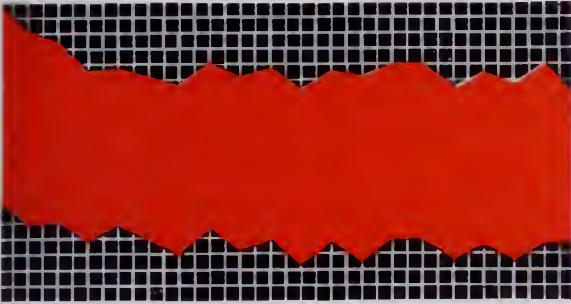
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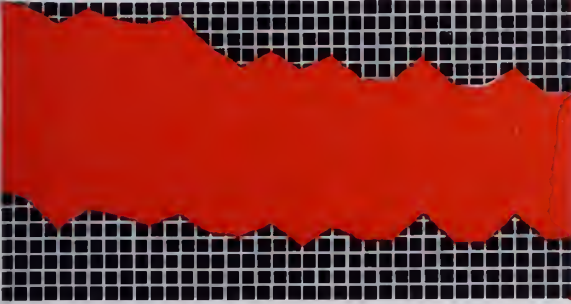
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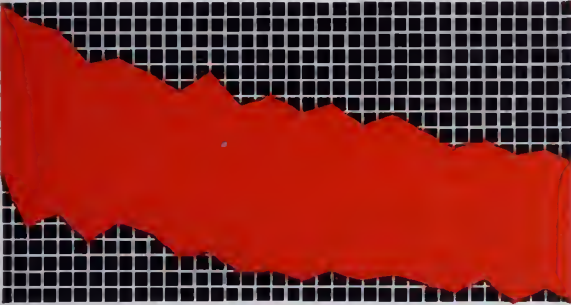
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References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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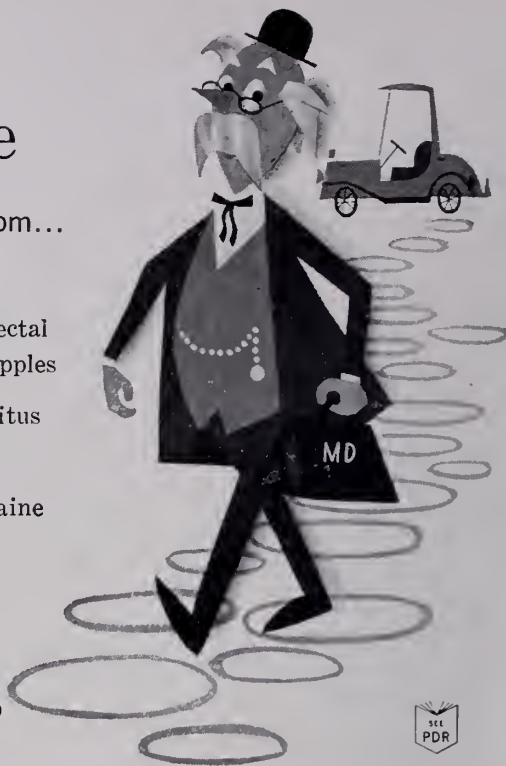


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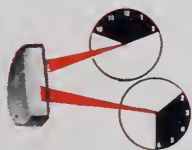
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References: 1. Sheldon, J. M.: *Postgrad. Med.* 14:165 (Dec.) 1953. 2. Hubbard, T. F. and Berger, A. J.: *Annals Allergy* p. 350 (May-June) 1950. 3. Kline, B. S.: *J. Allergy* 19:19 (Jan.) 1918. 4. Goodman, L. S. and Gilman, A.: *Pharmacol. Basis Ther.*, Macmillan, New York, 1956, p. 532. 5. Fabricant, N. D.: *E.F.N.T. Monthly* 37:460 (July) 1958. 6. Lhotka, F. M.: *Illinois M.J.* 112:259 (Dec.) 1957. 7. Farmer, D. I.: *Clin. Med.* 5:1183 (Sept.) 1958.

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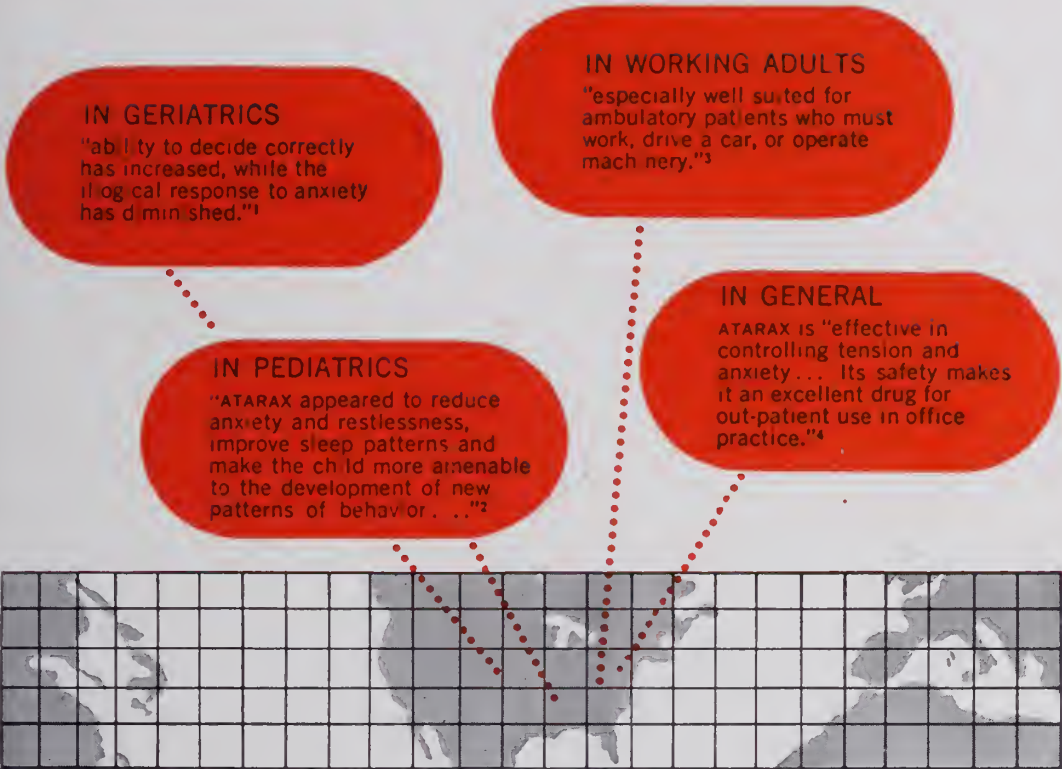


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- **References:** 1. Smigel, J. O., et al.: J. Am. Ger. Soc., in press. 2. Freedman, A. M.: Pediat. Clin. North America 5:573 (Aug.) 1958. 3. Ayd, F. J., Jr.: New York J. Med. 57:1742 (May 15) 1957. 4. Menger, H. C.: New York J. Med. 58:1684 (May 15) 1958.
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- 6. Bayart, J.: Presented at the International Congress of Pediatrics, Copenhagen, Denmark, July 22-27, 1956.

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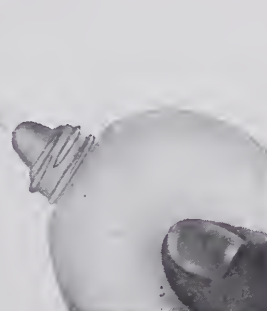
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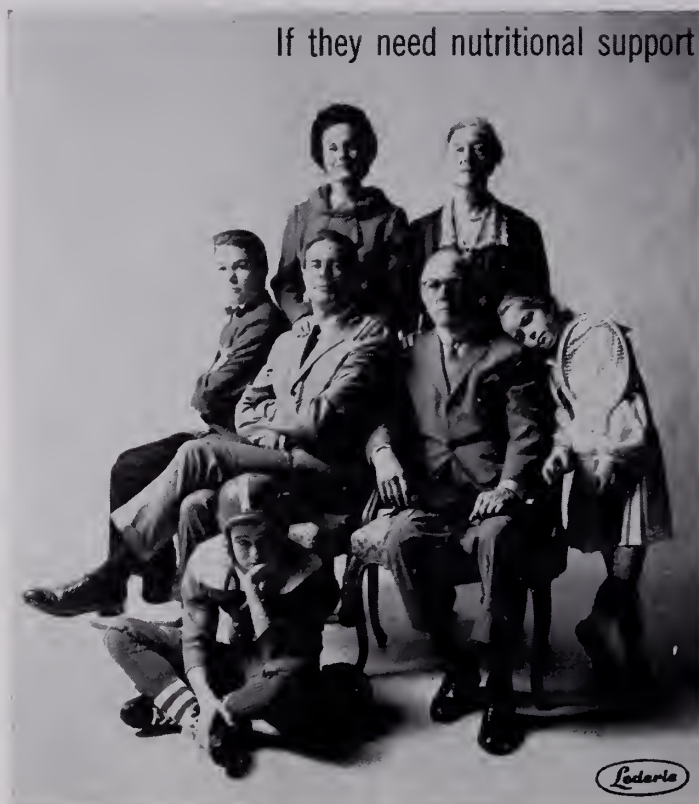
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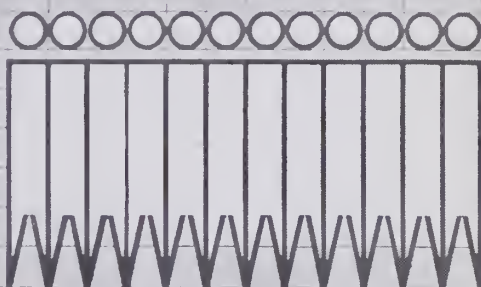
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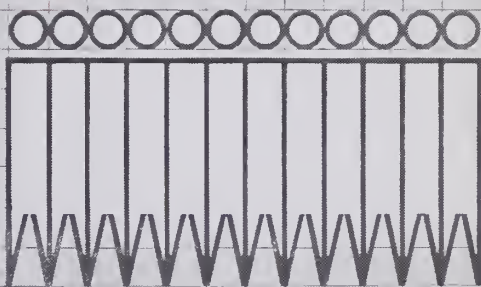
1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

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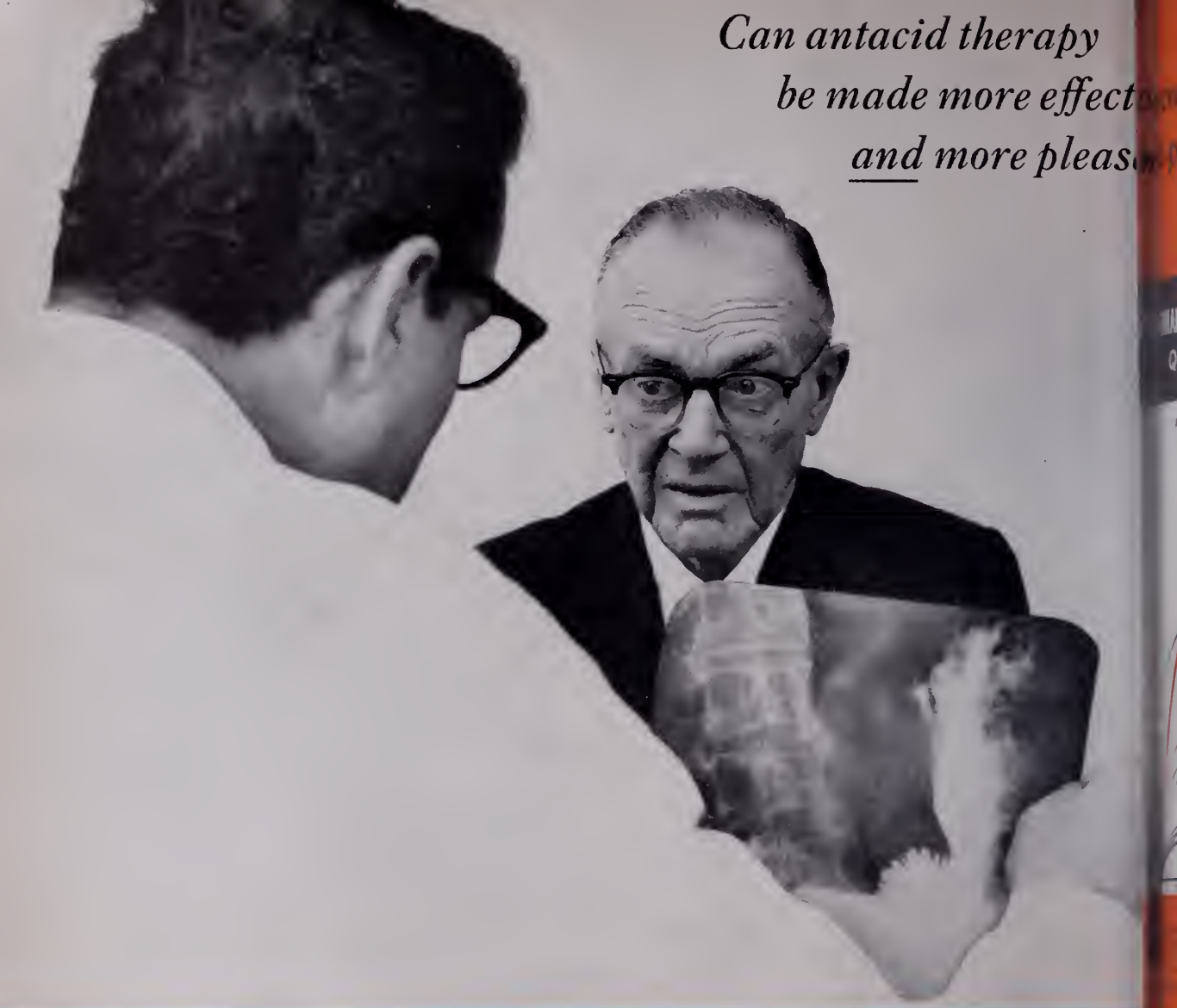
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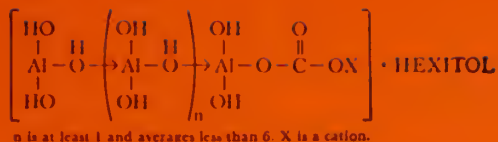
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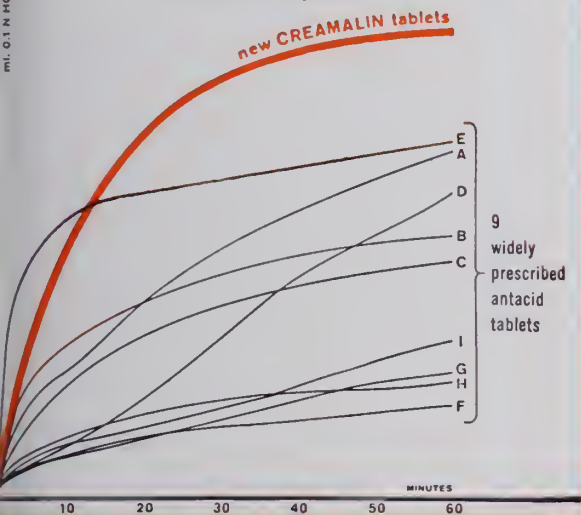
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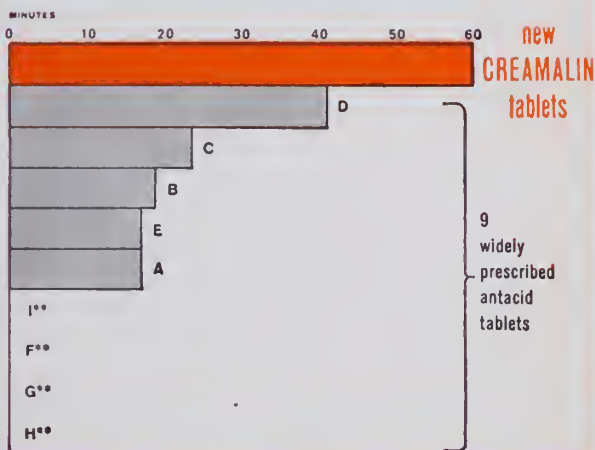
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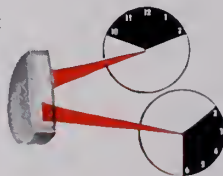
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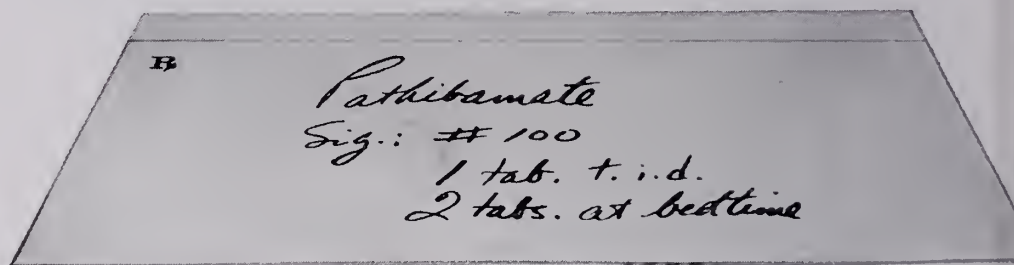
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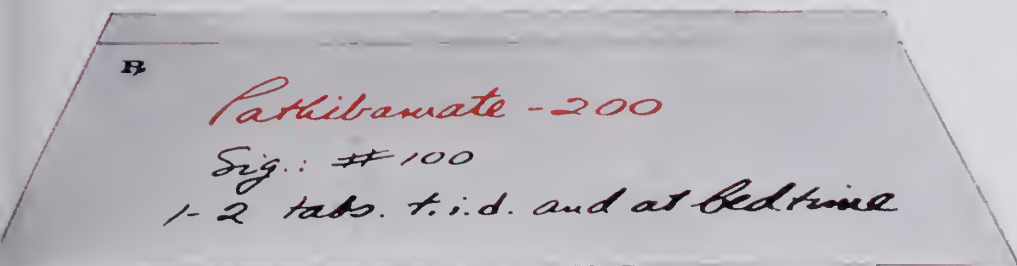
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 (branch of dextromethorphan HBr) 30 mg.
 Terpin hydrate 180 mg.
 APAP (N-acetyl-p-aminophenol) 325 mg.

References: 1. Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958. 4. Bonica, J. J.: in Drugs of Choice, Mosby, St. Louis, 1958, p. 272. 5. Dascomb, H. E.: in Current Therapy, Saunders, Phila., 1958, p.78. 6. Bickerman, H. A.: in Drugs of Choice, Mosby, St. Louis, 1958, p.547.

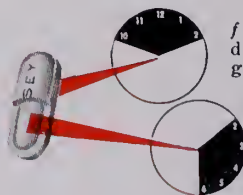
Controls cough centrally

with non-narcotic Dormethan, possessing "amply demonstrated" antitussive activity,⁶ as effective as codeine.

Liquefies tenacious mucus

with terpin hydrate, classic expectorant.

Prompt and prolonged relief because of this special "timed release" design:



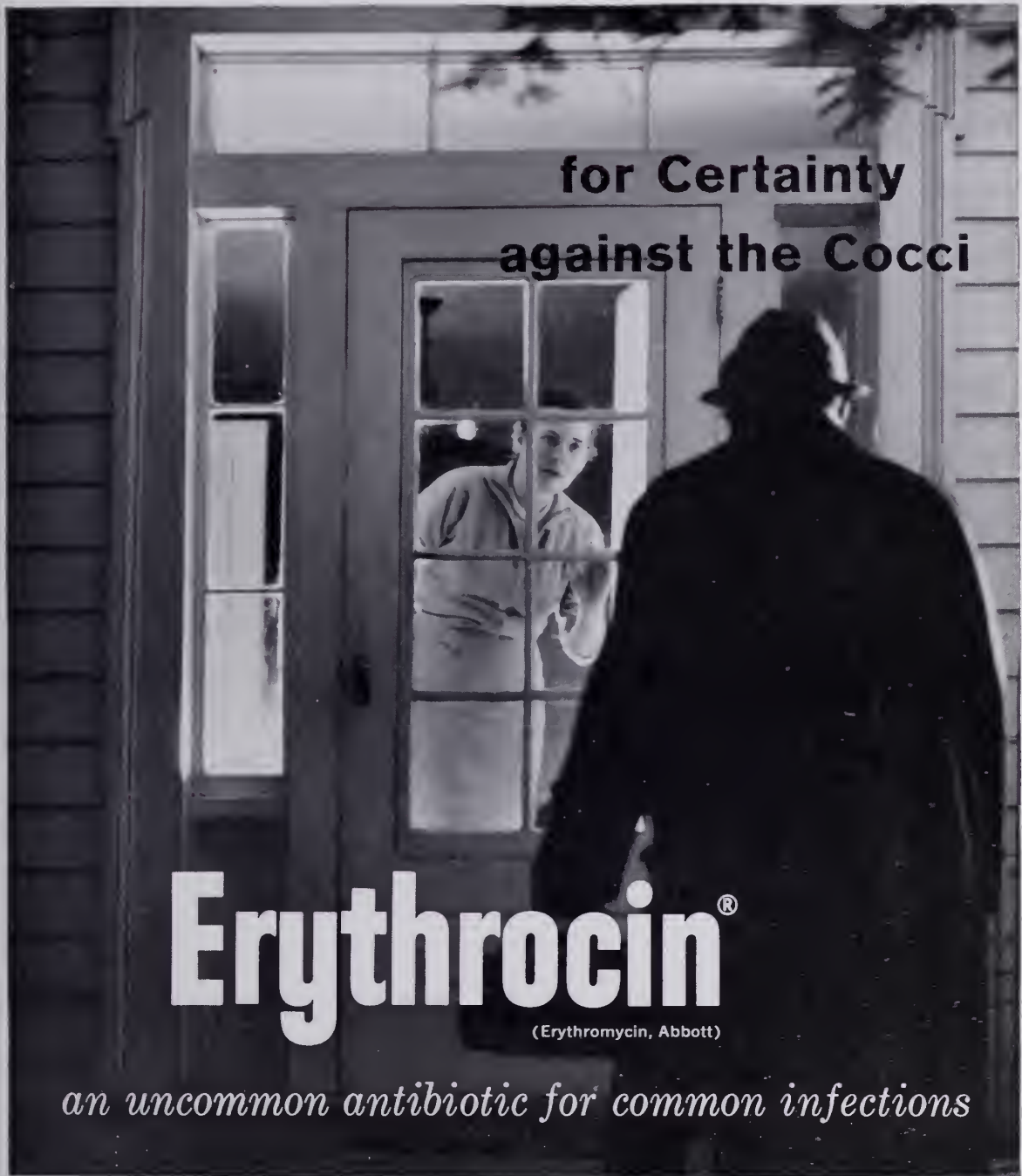
first—the outer layer dissolves within minutes to give 3 to 4 hours of relief

then—the inner core releases its ingredients to sustain relief for 3 to 4 more hours

Dosage: One tablet in the morning, midafternoon and at bedtime. Pediatric dosage chart for Tussagesic Suspension available on request.

TUSSAGESIC SUSPENSION provides palatability and convenience which make it especially attractive to children and other patients who prefer liquid medication.

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**for Certainty
against the Cocci**

Erythrocin®
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an uncommon antibiotic for common infections

Provides fast, high blood and tissue concentrations—plus an unparalleled safety record. Erythrocin is available in easy-to-swallow Filmtabs® (100 and 250 mg.); in tasty, citrus-flavored Oral Suspension (200 mg. per 5-cc. teaspoonful); and for intravenous and intramuscular use.





*loosen the noose of fear
in bronchial asthma*

VISTARIL[®]
hydroxyzine pamoate

...unties the mental and physical knot • tranquilizes anxious asthmatics • relieves apprehension • relaxes muscular tension • supplements anti-asthmatic medication

Vistaril was designated as a psychotherapeutic antihistamine by the A.M.A. Council on Drugs in 1958. A professional information booklet providing complete details on Vistaril is available on request.

Suggested oral dosage — adjust according to response: Adults, 50 mg. q.i.d., initially. Children over 6, 50-100 mg. daily in divided doses. Children under 6, 50 mg. daily in divided doses.

Supplied as Capsules — 25, 50, and 100 mg.; bottles of 100 and 500.

Oral Suspension — 25 mg. per teaspoonful (5 cc.); 1 pint bottles.

Parenteral Solution (as the HCl) — 25 mg. per cc.; 10-cc. vials and 2-cc. Steraject[®] Cartridges.



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1½ Grs. Ea.

Living up to a family tradition

There are probably certain medications which are special favorites of yours, medications in which you have a particular confidence.

Physicians, through ever increasing recommendation, have long demonstrated their confidence in the efficacy, potency and purity of Bayer Aspirin, the world's first aspirin.

And the same manufacturing skill, the same 106 ingredient and product tests, the same exclusive processes which contribute to the superiority of Bayer Aspirin set the standards of excellence for Bayer Aspirin for Children.

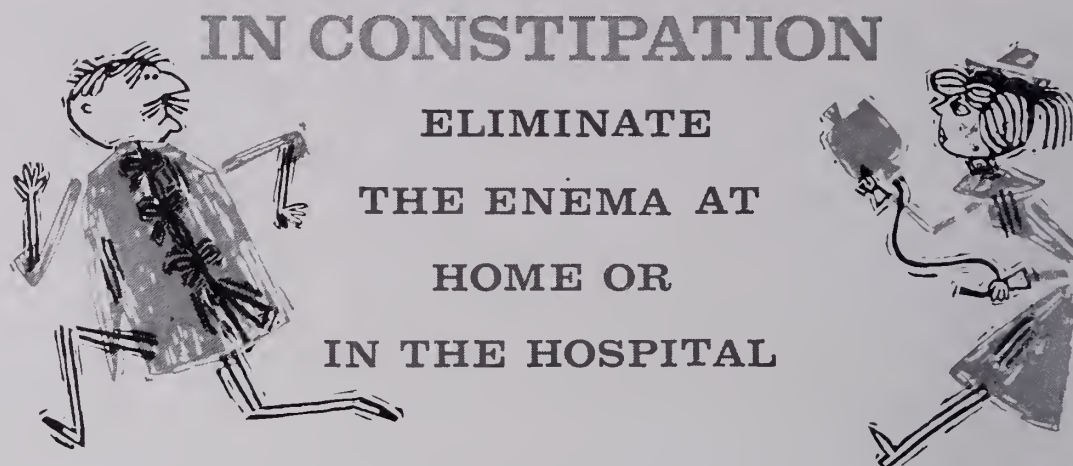
You can depend on Bayer Aspirin for Children for it has been conscientiously formulated to be the best tasting aspirin ever made and to live up to the Bayer family tradition of providing the finest aspirin the world has ever known.

Bayer Aspirin for Children—1½ grain flavored tablets—Supplied in bottles of 50.

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New
Tamper-Proof
Cap





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ELIMINATE
THE ENEMA AT
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"The effectiveness of the senna preparation ['Senokot'] in reducing the need for enemas...is clearly apparent..."

Kasdon, S. C., Morentin, B. O.: J. Internat. Coll. Surgeons 31:455 (Apr.) 1959.

...time and time again, gentle, natural acting 'Senokot' is cited in clinical reports as the therapy of choice in all patients with acute or chronic constipation.

'Senokot' acts uniquely, through neuro-stimulation of Auerbach's plexus in the colon, duplicating the process of normal defecation.

When therapy with 'Senokot' is substituted for enemas the difference is safe, natural physiologic correction of constipation, and increased patient comfort, as well as significant saving of time for your hospital's nursing staff.

THE EFFECTIVENESS AND SAFETY OF THE DOUBLY STANDARDIZED SENNA CONCENTRATE CONTINUE TO BE DOCUMENTED BY CLINICAL AND LABORATORY INVESTIGATIONS WHICH CONSTITUTE THE FASTEST GROWING BIBLIOGRAPHY* ON CONSTIPATION CORRECTION

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<i>natural bowel corrective</i> Senokot®	Small and easy to swallow, in bottles of 100. TABLETS
<i>natural bowel corrective</i> Senokot®	Cocoa-flavored, in 8 and 4 ounce canisters. GRANULES

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 *The Purdue Frederick Company*

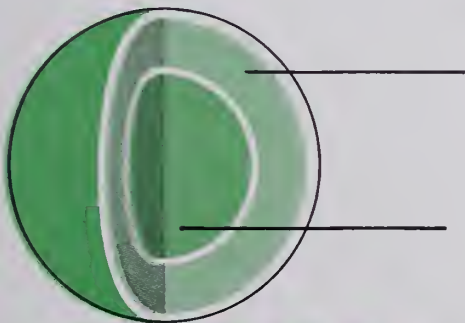
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NEW YORK 14, N. Y. | TORONTO 1, ONTARIO

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the complaint: “nervous indigestion”

the diagnosis: any one of several nonspecific gastrointestinal disorders requiring relief of symptoms by sedative-antispasmodic action with concomitant digestive enzyme therapy.
the prescription: a new formulation, incorporating in a single tablet the actions of Donnatal and Entozyme. the dosage: two tablets three times a day, or as indicated.



the formula: in the gastric-soluble outer layer:

Hyoscyamine sulfate	0.0518 mg.
Atropine sulfate	0.0097 mg.
Hyoscine hydrobromide	0.0033 mg.
Phenobarbital (1/3 gr.)	8.1 mg.
Pepsin, N. F.	150 mg.

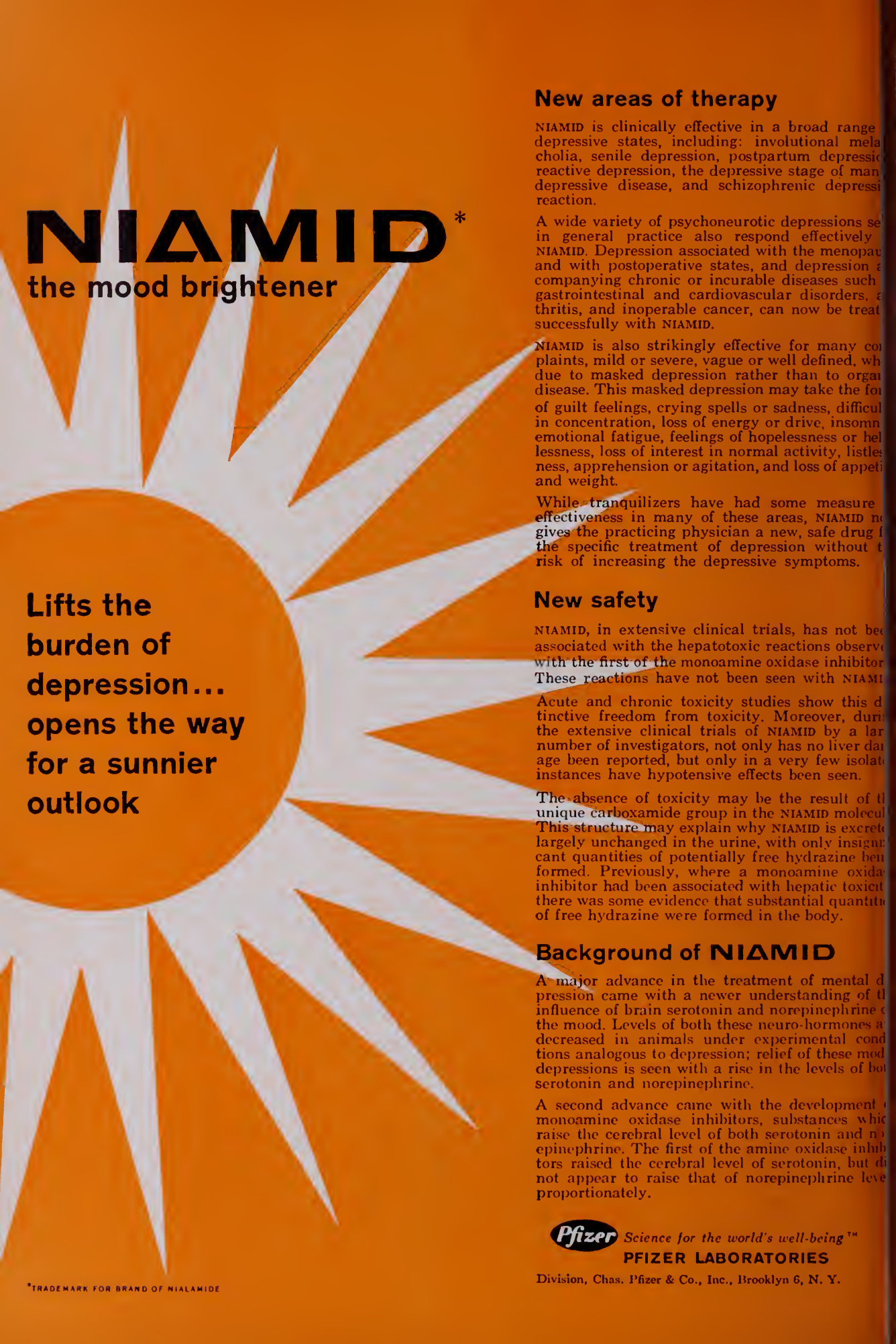
in the enteric-coated core:

Pancreatin, N. F.	300 mg.
Bile salts	150 mg.

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NIAMID*

the mood brightener

**Lifts the
burden of
depression...
opens the way
for a sunnier
outlook**

New areas of therapy

NIAMID is clinically effective in a broad range of depressive states, including: involutional melancholia, senile depression, postpartum depression, reactive depression, the depressive stage of manic depressive disease, and schizophrenic depressive reaction.

A wide variety of psychoneurotic depressions seen in general practice also respond effectively to NIAMID. Depression associated with the menopause and with postoperative states, and depression accompanying chronic or incurable diseases such as gastrointestinal and cardiovascular disorders, arthritis, and inoperable cancer, can now be treated successfully with NIAMID.

NIAMID is also strikingly effective for many complaints, mild or severe, vague or well defined, which are due to masked depression rather than to organic disease. This masked depression may take the form of guilt feelings, crying spells or sadness, difficulty in concentration, loss of energy or drive, insomnia, emotional fatigue, feelings of hopelessness or helplessness, loss of interest in normal activity, listlessness, apprehension or agitation, and loss of appetite and weight.

While tranquilizers have had some measure of effectiveness in many of these areas, NIAMID now gives the practicing physician a new, safe drug for the specific treatment of depression without the risk of increasing the depressive symptoms.

New safety

NIAMID, in extensive clinical trials, has not been associated with the hepatotoxic reactions observed with the first of the monoamine oxidase inhibitors. These reactions have not been seen with NIAMID.

Acute and chronic toxicity studies show this distinctive freedom from toxicity. Moreover, during the extensive clinical trials of NIAMID by a large number of investigators, not only has no liver damage been reported, but only in a very few isolated instances have hypotensive effects been seen.

The absence of toxicity may be the result of the unique carboxamide group in the NIAMID molecule. This structure may explain why NIAMID is excreted largely unchanged in the urine, with only insignificant quantities of potentially free hydrazine being formed. Previously, where a monoamine oxidase inhibitor had been associated with hepatic toxicity, there was some evidence that substantial quantities of free hydrazine were formed in the body.

Background of NIAMID

A major advance in the treatment of mental depression came with a newer understanding of the influence of brain serotonin and norepinephrine on the mood. Levels of both these neuro-hormones are decreased in animals under experimental conditions analogous to depression; relief of these model depressions is seen with a rise in the levels of both serotonin and norepinephrine.

A second advance came with the development of monoamine oxidase inhibitors, substances which raise the cerebral level of both serotonin and norepinephrine. The first of the amine oxidase inhibitors raised the cerebral level of serotonin, but did not appear to raise that of norepinephrine levels proportionately.



Science for the world's well-being™

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Attention at Pfizer Research was then directed to a new drug that would overcome this disadvantage. NIAMID significantly raises the cerebral level of *both* serotonin and norepinephrine under experimental conditions.

The dramatic discovery of NIAMID now makes available an extremely effective, safe antidepressant for the successful treatment of a full range of depressive states.

Precautions

Side effects are most often minor and mild manifestations of central nervous system stimulation, modifiable by reduction in dosage; these may take the form of restlessness, insomnia, headache, weakness, vertigo, dry mouth, and perspiration. Care should be taken when NIAMID is used with chlorothiazide compounds, since hypotensive effects have been noted in some patients receiving combined therapy—even though hypotension has rarely been noted with NIAMID alone. There has been no evidence of liver damage in patients on NIAMID; however, in patients who have any history of liver disease, the possibility of hepatic reactions should be kept in mind.

Dosage and Administration

Start with 75 mg. daily in single or divided doses. After a week or more, revise the daily dosage upward or downward, depending upon the response and tolerance, in steps of one or one-half 25 mg. tablet. Once satisfactory response has been attained, the dosage of NIAMID may be reduced gradually to the maintenance level.

The therapeutic action of NIAMID is gradual, not immediate. Many patients respond within a few days, others satisfactorily in 7 to 14 days. Some patients, particularly chronically depressed or regressed psychotics, may need substantially higher dosages (as much as 200 mg. daily has been used) and prolonged administration before responses are achieved.

Supply

NIAMID is available in: 25 mg., pink, scored tablets in bottles of 100; and 100 mg., orange, scored tablets in bottles of 100.

References

Complete bibliography and Professional Information Booklet are available on request.

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NIAMID
the mood brightener



Antivert®

stops vertigo

Improvement is marked in virtually 9 out of 10 vertiginous patients on ANTIVERT.¹ Combines the two most effective therapies for equilibrium disorders. Each ANTIVERT tablet contains:

Meclizine (12.5 mg.)—the most effective anti-histaminic to control vestibular dysfunction.²

Nicotinic acid (50 mg.)—the drug of choice for prompt vasodilation.^{1,3}

Prescribe ANTIVERT for relief of Meniere's syndrome, arteriosclerotic vertigo, labyrinthitis, and streptomycin toxicity. Also effective in recurrent headache, including migraine.

Dosage: One tablet before each meal.

Supplied: In bottles of 100 blue-and-white scored tablets. Prescription only.

References: 1. Menger, H. C.: Clin. Med. 4:313 (March) 1957. 2. Charles, C. M.: Geriatrics 2:110 (March) 1956. 3. Shuster, B. H.: M. Clin. North America 40:1787 (Nov.) 1956. 4. Oolowitz, D. A.: Rocky Mountain M. J. 55:53 (Oct.) 1958.



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Prompt
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DIARRRHEA

POMALIN TRADE MARK
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RASPBERRY FLAVOR
*and pink color make POMALIN pleasant to
take and appealing to both children and adults.*

✓

Curbs excessive peristalsis

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Adsorbs toxins and gases

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Soothes inflamed mucosa

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Provides intestinal antiseptis

FORMULA:
Each 15 cc. (tablespoon) contains:
Sulfaguanidine 2 Gm.
Pectin 225 mg.
Kaolin 3 Gm.
Opium tincture 0.08 cc.
(equivalent to 2 cc. paregaric)

SUPPLIED:
Bottles of 16 fl. oz.
Exempt Narcotic.
Available on Prescription Only.

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when it's skin deep
use XYLOCAINE ointment

... in nearly all external symptoms of *pain, itching and burning*, e.g., sunburn, minor burns, insect bites, abrasions, poison ivy and other contact dermatitis, hemorrhoids and inoperable anorectal conditions, and cracked nipples.

Xylocaine Ointment, a surface or topical anesthetic, gives fast, effective and long lasting relief. Its *water-soluble, nonstaining* base melts on contact with the skin, to assure immediate release of the anesthetic for fast action and it does not interfere with the healing processes.



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XYLOCAINE® OINTMENT
(brand of lidocaine*)

2.5% & 5%

SURFACE ANESTHETIC



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Incremin[®]
Lysine-Vitamins Lederle
with **iron** Syrup
for the
undersized
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build appetite
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B complex
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a form of iron
exceptionally
well-tolerated

promote
protein uptake
with the
potentiating effect
of L-Lysine on
low-grade
protein foods

*in taste-tempting
cherry flavor*
Average dosage, 1 teaspoonful
(5 cc.) contains:
L-Lysine HCl 300 mg.
Vitamin B₁₂ Crystalline 25 mcgm.
Thiamine HCl (B₁) 10 mg.
Pyridoxine HCl (B₆) 5 mg.
Ferric Pyrophosphate (Soluble) 250 mg.
Iron (as Ferric Pyrophosphate) 30 mg.
Sorbitol 3.5 Gm.
Alcohol 75%
Bottles of 4 and 16 fl. oz.



ction of FULVICIN (▲)
n ringworm:
eratin penetrated from bloodstream;
ungal growth checked



e oral route to ringworm control



**orally effective antifungal antibiotic
against ringworm**

penetration—*first* fungistatic agent to permeate keratin *from the inside*—oral FULVICIN is deposited into dermis, hair and nails—acts to check invading fungi until new, healthy tissue grows out.

effectiveness¹⁻⁶—FULVICIN clears tinea of scalp, body and feet often in 2 to 3 weeks...nails (onychomycosis) usually clear in 3 to 4 months, regardless of previous duration or resistance...promotes rapid relief of itching...prompt loss of hyperkeratosis...rapid fungistasis in infected hair and nails.

safety¹⁻⁶—very low toxicity in therapeutic doses...the few side effects reported (e.g., gastric discomfort, diarrhea and headache) are mild and self-limited.

Rapid clearing of tinea capitis, tinea barbae, tinea corporis, tinea cruris, tinea pedis and onychomycosis caused by *Microsporum*, *Trichophyton* and *Epidermophyton* organisms.

Packaging: FULVICIN is supplied as 250 mg. scored tablets, bottles of 30.

Bibliography: (1) Riehl, G.: Griseofulvin: An Orally Active Antibiotic, presented at Austrian Dermat. Soc. Meet., Vienna, Nov. 27, 1958. (2) Williams, D. I.; Marten, R. H., and Sarkany, I.: *Lancet* 2:1212, 1958. (3) Blank, H., and Roth, F. J., Jr.: *A.M.A. Arch. Dermat.* 79:259, 1959. (4) Goldfarb, N., and Rosenthal, S. A.: *Current M. Digest* 26:67, 1959. (5) Reiss, F.: *Medical Circle Bulletin* 6:9, 1959. (6) Robinson, H. M., Jr.; Robinson, R. C. V.; Bereston, E. S.; Manthey, L. L., and Bell, F. K.: Griseofulvin, Clinical and Experimental Studies, presented at Am. Dermat. Assoc. Meet., Atlantic City, N. J., June 3, 1959.

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The clinical usefulness of Darvon® (dextro propoxyphene hydrochloride, Lilly), alone and in combination, has been substantiated by more than 100 investigators in the treatment of over 6,300 patients in pain. A consolidation of these reports shows that 5,663 (89.8 percent) experienced "effective analgesia."

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Usual dosage: 1 or 2 Pulvules three or four times daily.

Also available: Darvon, in 32 and 65-mg. Pulvules.

Usual dosage: 32 mg. (approximately 1/2 grain) every four hours or 65 mg. (1 grain) every six hours.

Darvon® Compound (dextro propoxyphene and acetylsalicylic acid compound, Lilly)

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1776 -- MEDICAL SOCIETY OF DELAWARE -- 1959

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ALFRED R. SHANDS, JR., M.D.

President, Medical Society of Delaware, 1959



MEDICAL SOCIETY OF DELAWARE 1776-1789-1959

170th ANNUAL MEETING

October 11 and 15, 1959 • Wilmington, Delaware

PROGRAM

October 11

At the Delaware Academy of Medicine

3:00 P.M. House of Delegates

October 15

At the Eugene du Pont Memorial Hospital

3506 Kennett Pike

8:30 - 9:15 Inspection and rounds of rehabilitation facilities of the Eugene du Pont Hospital — Arthur J. Heather, M.D., Medical Director

At the Delaware Academy of Medicine

Lovering Avenue and Union Street

9:15 - 9:45 Registration and coffee

9:45 Call to order — Alfred R. Shands, Jr., M.D. — President, Medical Society of Delaware

Welcome — H. Thomas McGuire, M.D., President, New Castle County Medical Society

9:50 Report of the House of Delegates — Norman L. Cannon, M.D., Secretary, Medical Society of Delaware

10:00 Depression as a Symptom — James A. Flaherty, M.D.

10:30 Pernicious Anemia, A Survey of Hospitalized Cases in Wilmington — John J. Egan, M.D.

11:00 Coffee break

11:15 Myocardial Infarction, A Twelve-year Study at the Delaware Hospital — Robert L. Dewees, M.D. — Gerhart Hartenauer, M.D., and Edward M. Krieger, M.D.

11:45 Diagnosis and Management of Occlusion in the Larger Vessels — Richard N. Taylor, M.D.

12:15 Presidential Address — Alfred R. Shands, Jr., M.D.

12:30 Business Meeting

1:00 Luncheon as guests of New Castle County Medical Society

2:15 Report of the Committee on Aging — Clarence J. Prickett, M.D., Chairman

2:30 Panel Discussion — Growing Older — The Medical, Mental and Social Problems of the Elderly

Participants — Louis M. Orr, M.D., President, American Medical Association
 Edward L. Bortz, M.D., Past-President, American Medical Association; Member, AMA Committee on Aging
 Ewald W. Busse, M.D., Chairman, Department of Psychiatry, Duke University School of Medicine; Member, AMA Committee on Aging
 Theodore G. Klumpp, M.D., Member, AMA Committee on Aging; former Chairman, Hoover Commission Medical Services Task Force
 Dean W. Roberts, M.D., Executive Director, National Society for Crippled Children and Adults

Moderator — Alfred R. Shands, Jr., M.D.

3:30 - 3:45 Coffee break
 5:00 Adjournment
 6:30 Reception and cocktails — Ballroom, du Pont Country Club
 7:00 Annual Banquet — Ballroom, du Pont Country Club



PROGRAM OF THE THIRTIETH ANNUAL MEETING

THE WOMAN'S AUXILIARY

To the MEDICAL SOCIETY OF DELAWARE

October 15, 1959 — Brandywine Country Club

9:30 A.M.	Registration and Coffee Hour	Report of the Nominating Committee—Mrs. Robert Lewis
10:30 A.M.	General Session	Election of Officers
	Pledge of Loyalty—	Adjournment
	Invocation—Mrs. Allan Cruchley	1:00 P.M.
	Address of Welcome — Mrs. Joseph Davolos	Luncheon—Brandywine Country Club
	Response—Mrs. Harold J. Laggner	Invocation—Rev. John R. Symonds, Jr., St. Stephens Episcopal Church, Harrington, Delaware
	Introductions—Honored Guests	Introduction of Advisory Committee to Auxiliary
	Necrology—Mrs. John B. Baker	Greetings—President of the Medical Society of Delaware, Alfred R. Shands, Jr., M.D.
	Roll Call of Delegates—Mrs. Joseph Casella	Introduction of Honored Guests—
	Minutes of 29th Annual Meeting	Introduction of Hospitality Chairman and Committee, Mrs. Joseph Barskey, Sr., and Committee
	Treasurer's Report—Mrs. Robert Lewis	Installation of Officers—Mrs. Sylvester Rennie
	Report of County Presidents	Presentation of Past President's Pin—Mrs. Roger B. Thomas
	New Castle—Mrs. John Alden, Jr.	Presentation of Gavel and President's Pin
	Kent—Mrs. John J. Lazzeri	Inaugural Address—Mrs. Lemuel C. McGee
	Sussex—Mrs. Leslie Dobson	Adjournment
	Paramedical Careers Recruitment—Mrs. James Aikins	
	A.M.E.F.—Mrs. James Dukes	
	Report of the President—Mrs. Hewitt W. Smith	
	Report of 1959 National Convention Delegate—Mrs. Lemuel McGee	

CURRICULUM

FOR DELAWARE TWO-WAY RADIO MEDICAL CONFERENCES

OCTOBER 6, 1959 THROUGH APRIL 26, 1960

30 SUCCESSIVE TUESDAYS, 12:30 TO 1:30 P.M.

In Wilmington at the Delaware Academy
of Medicine

In Milford at the Milford Memorial
Hospital

In Dover at the Dover Hotel

In Seaford at the Nanticoke Memorial
Hospital

In Lewes at the Beebe Hospital

TOPIC AND FACULTY

October 6	"Use and Abuse of Antibiotics." E. L. Foltz, M.D., Ass't. Prof. Med., and Assoc. in Clinical Pharmacology, University of Pennsylvania School of Medicine
October 13	"Follow-Up Care of Malignancies." Orville C. King, M.D., Director, Division of Surgery, Pennsylvania Hospital
October 20	"Toxemias of Pregnancy." James D. Garnet, M.D., Ass't. Obstetrician and Gynecologist to Pennsylvania Hospital
October 27	"The Role of Diuretics in Cardiovascular Disease." Joseph A. Wagner, M.D., Associate Cardiologist to Pennsylvania Hospital
November 3	"Steroid Therapy of Hypersensitivities." George R. Fisher, III, M.D., Ass't. Physician, Pennsylvania Hospital
November 10	"Diagnosis and Treatment of Vaginitis, Vulvitis, Pruritus." Clarence C. Briscoe, M.D., Assoc. Obstetrician and Gynecologist to Pennsylvania Hospital
November 17	"Recognition, Etiology and Treatment of Fetal Distress During Labor." Paul E. Stroup, M.D., Ass't. Obstetrician and Gynecologist, Pennsylvania Hospital
November 24	"Proper Use of Anticoagulants." Joseph B. Vander Veer, M.D., Cardiologist to Pennsylvania Hospital
December 1	"Diabetic Acidosis." Garfield G. Duncan, M.D., Director, Division of Medicine, Pennsylvania Hospital
December 8	"Treatment of Urinary Tract Infections." Alex J. Michie, M.D., Associate Urologist to Pennsylvania Hospital; Assoc. Surgeon, Division of Urology, Children's Hospital; Ass't. Prof. of Ped. Surg., University of Pennsylvania School of Medicine
December 15	"Dysfunctional Uterine Bleeding." S. Leon Israel, M.D. Obstetrician and Gynecologist to Pennsylvania Hospital

- December 22 "New Drugs in Therapy of Hypertension." Garfield G. Duncan, M.D.
- December 29 "Radio-Isotopes in Thyroid Dysfunction." George R. Fisher, III, M.D.
- January 5 "Modern Therapy of Peptic Ulcer." Alexander Rush, M.D., Gastroenterologist to Pennsylvania Hospital
- January 12 "Hormone Therapy in Carcinoma of the Breast." Charles H. Cretzmeyer, Jr., M.D., Assistant Surgeon to Pennsylvania Hospital
- January 19 "Current Status of the Chemotherapy of Malignancy." Edward H. McGehee, M.D., Hematologist to Pennsylvania Hospital and Physician to the Hospital
- January 26 "Value of Preventive Measures in Atherosclerosis." Peter T. Kuo, M.D., Ass't. Prof. Medicine, University of Pennsylvania School of Medicine
- February 2 "Role of Steroids in Rheumatoid Arthritis." Richard T. Smith, M.D., Director, Department of Rheumatology; Physician to Pennsylvania Hospital
- February 9 "Laboratory Workup of the Patient with Jaundice." Alexander Rush, M.D.
- February 16 "Carcinoma of the Cervix." Robert A. Kimbrough, M.D., Director, Division of Obstetrics and Gynecology, Pennsylvania Hospital
- February 23 "Cardiac Lesions Amenable to Surgery." Julian Johnson, M.D., Prof. Surgery, University of Pennsylvania School of Medicine
- March 1 "Common Orthopedic Problems of Children." Jesse T. Nicholson, M.D., Orthopedic Surgeon to Pennsylvania Hospital
- March 8 "Comparison of BMR, PBI, I¹³¹ and Cholesterol." George R. Fisher, III, M.D.
- March 15 "Mechanism, Etiology and Management of Dysmenorrhea." Craig W. Muckle, M.D., Assoc. Obstetrician and Gynecologist, Pennsylvania Hospital
- March 22 "Laboratory Workup of the Patient with Anemia." Edward H. McGehee, M.D.
- March 29 "Differential Diagnosis and Treatment of Obstructive Jaundice." W. Paul Havens, M.D., Physician to Pennsylvania Hospital and Head, Dept. of Infectious Diseases
- April 5 "Resuscitation of the Newborn." Thomas R. Boggs, Jr., M.D., Pediatrician to Pennsylvania Hospital and Head, Dept. of Pediatrics
- April 12 "Diagnosis and Treatment of Pruritus Ani." F. Dana Law, M.D., Ass't. Surgeon, Pennsylvania Hospital
- April 19 "Immunization Routines in Children." Edward M. Sewell, M.D., Instructor in Pediatrics, University of Pennsylvania School of Medicine
- April 26 "Cardiac Arrhythmias, Recognition and Treatment." Frank R. Boyer, M.D., Ass't. Cardiologist, Pennsylvania Hospital

STEROID HORMONES AS ADJUVANT THERAPY IN ACTIVE TUBERCULOSIS

● The author proves that steroid hormones, which have had slow acceptance in this country as adjuvant therapy in active tuberculosis, can be successfully used if accompanied by effective antimicrobial agents.

NATHANIEL YOUNG, M.D.*

The tendency of steroid hormones to reduce the resistance of most hosts to most infections has caused these drugs to be very slowly accepted in this country as adjuvant therapy in tuberculosis. In foreign countries, particularly France, but also in Great Britain, Australia and Japan, their use has been widely recommended along with *EFFECTIVE* antimicrobial agents.

In September 1951 Kinsell¹ suggested that "combination therapy" would eventually have a place in the treatment of tuberculosis. By 1954 Johnson and Davey² had concluded that "although cortisone, and to a lesser extent corticotropin, have adversely affected tuberculosis in both experimental animals and man", nevertheless, "the bulk

of evidence to date indicates that the concomitant use of streptomycin will protect from these deleterious effects".

About this time there was a growing volume of literature on cases treated with concomitant or adjuvant therapy, and in December 1955 Barré and Lucas³ in France published their findings on "Two Years of Steroid Therapy in Pulmonary Tuberculosis". In this same issue of the *Rev. de la tuberc.* other authors gave their findings in the treatment of tuberculous disease of serous membranes, reporting excellent results in meningitis, pleural effusion and peritonitis. Good results were also reported in acute exudative disease, miliary tuberculosis and overwhelming infection. As expected, the x-ray picture in chronic forms of the disease was little changed.

*Assistant Director of Medical Services, Emily P. Bissell Hospital.

In October 1957 the Committee on Therapy of the American Trudeau Society⁴ issued a statement in the American Review of Tuberculosis noting the lack of controlled studies, but noting also that if there was any unanimity on the usefulness of adjuvant steroid therapy, it was in the treatment of tuberculous meningitis, but with the reservation that the addition of INH to the antimicrobial therapy deserved a greater or lesser degree of credit for the improved results. They stated that "apart from meningitis there are no clearly formulated indications for adjunctive hormone therapy in tuberculosis". They added, however, that "a large volume of clinical experience indicates that adjuvant hormone therapy is less dangerous than had been feared", but emphasized that antimicrobial therapy must be effective i.e. that the tubercle bacillus must still be sensitive to antimicrobial therapy, and therefore the need for special caution in retreatment cases.

It is interesting to note that in the 1957 edition of Bronchopulmonary Diseases by 142 authors,⁵ the statement is made, "*There are few absolute contraindications to the use of these hormones, especially if the course of treatment is short and the total dose is rather small. These hormones should not be used in the presence of active or inactive tuberculosis*".

HORMONE THERAPY BEGUN

With this background the staff of the Emily P. Bissell Hospital began using cortisone, and in due course other preparations as they were developed, but on an individual basis only. The main criteria were meningitis, miliary tuberculosis and overwhelming infection. Under these circumstances hormone therapy was begun before the results of sputum sensitivity studies could be reported by the laboratory, and a calculated risk had to be taken.

Between July 1957 and June 1958 sixteen patients with active pulmonary tuberculosis received antimicrobial therapy with concomitant steroid hormones. The antimicrobials used were SM, PAS and INH,

all three being given unless the patient could not tolerate them, in which case one drug, usually PAS, was discontinued. INH was considered the most essential drug. The steroids used were cortisone, methylprednisolone or triamcinolone, beginning with four doses daily, and reducing by one dose every five to seven days. The two patients who required maintenance doses of steroids eventually died, but this was not considered to be due to the steroids but to the original nature and extent of disease, resulting in so much lung destruction that right sided heart failure developed. All patients converted their sputum from positive to negative, so that the organisms in each case were sensitive to the antimicrobial drugs.

Three of the patients were treated for drug allergy in the presence of active disease. One white woman developed hypersensitivity a few weeks after antimicrobial therapy was begun. She had hyperpyrexia accompanied by a macular rash which subsided when the drugs were discontinued but had exacerbation whenever any of the drugs was reintroduced. Attempts were made at desensitization without too much success, but when she was given courses of steroids as necessary her antimicrobial drugs were tolerated and she eventually had excisional surgery and a very good result.

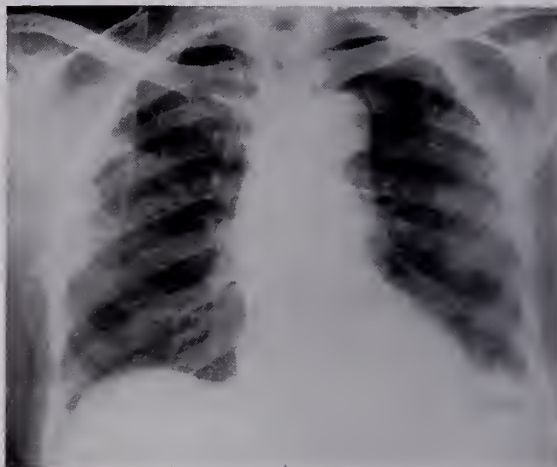
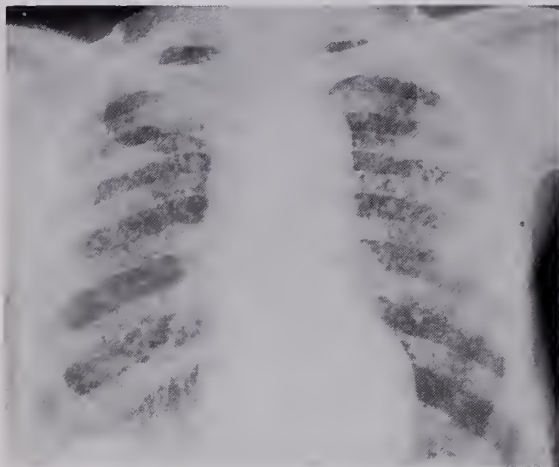
The other white woman developed a maculopapular rash about 2 months after surgery. This rash promptly cleared with steroid therapy but reappeared when the hormone was discontinued and Streptomycin therapy recommenced.

The 15 year-old Negro boy had a history of bronchial asthma of long standing but did not have an attack in this hospital until two months after excisional surgery. At surgery he was found to have large tuberculous lymph nodes which had obstructed the right upper lobe bronchus causing fibrosis and bronchiectasis in that lobe. He developed increasingly severe asthma over a period of about two weeks and eventually status asthmaticus, refractory to the usual medications, but rapidly relieved by I.V. cortisone and later by oral methylprednisolone.

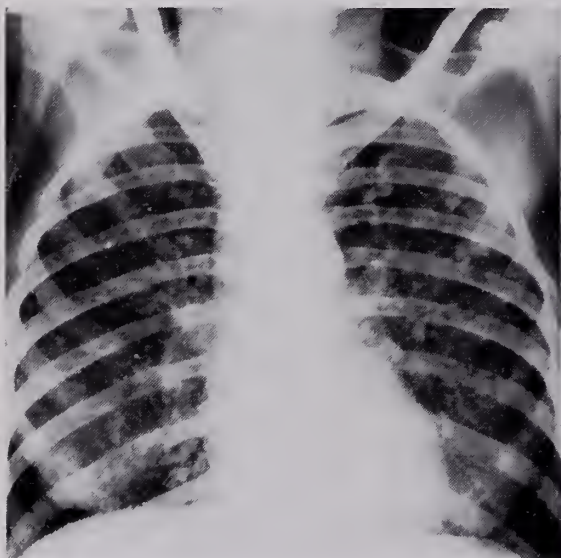
CHART FOR 16 ILLUSTRATIVE CASES

Patient	S	C	Age	Min	Mod	Far	Duration of Treatment	Reason for Treatment	Clinical Response	X-ray Response	Other
1.	F	C	15			Miliary	4 weeks	Meningitis	good	good	No neurological sequelae
2.	F	C	41			X	2½ weeks	Miliary	good	good	Minimal Inactive at present
3.	F	C	44			X	3 weeks	Miliary	good	good	Minimal Inactive at present
4.	F	C	57			X	4 weeks	Miliary	good	good	T.T. neg. 11/57. Pos. 1/58
5.	M	C	51			X	4 weeks	Miliary	good	good	Developed Moon Face
6.	F	C	11		TBC Peritonitis		4 weeks	Critically ill	good	neg.	Had subacute intestinal obstruction before therapy
7.	M	C	54		X		4 weeks	Critically ill	good	good	2 units blood on adm.
8.	M	C	25			X	4 weeks	Overwhelming Disease	good	good	Developed broncho-pleural fistula. Later had pneumonectomy
9.	F	C	41			X	2 weeks	Overwhelming Disease	good	good	Had a hematemesis from gastric ulcer 5 mos. later
10.	M	C	51			X	2 weeks	High fever Toxic	good	good	Retreatment case
11.	F	C	20			X	4 weeks	Overwhelming Disease	good	good	Had lobectomy 6 mos. later
12.	F	C	31			X	19 months	Overwhelming Disease	good for 16 mos. died	none	Retreatment case. Moribund when drug begun
13.	F	C	20			X		Overwhelming Disease	Poor died	poor	Addison's Disease?
14.	M	C	15		X		2 weeks	Status Asthmaticus	good	No change	Addison's Disease
15.	F	W	33		X		3 weeks	Drug hypersensitivity	good	No change	Had R.U. Lobectomy and lymph node dissection
16.	F	W	25		X		2 weeks	Drug hypersensitivity	good	No change	Had R.U. Lobectomy

TWO CASES OF MILIARY TUBERCULOSIS



Negro woman, aged 71, with miliary tuberculosis. Almost complete clearing.



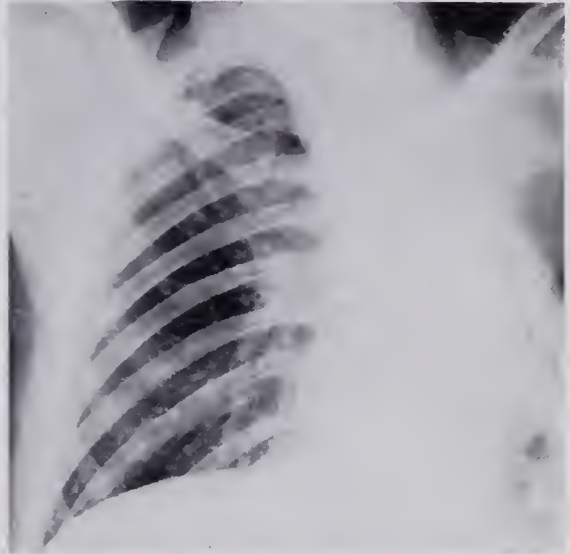
Negro woman, aged 27, miliary or bronchogenic spread. Marked clearing but residual nodules, especially on the left.

lone. This boy was found to have become allergic to PAS. His only side reaction was a marked increase in acne vulgaris.

The only case of tuberculous meningitis had a fairly early diagnosis with an uneventful course and no neurological sequelae.

Four cases were classified as having miliary tuberculosis although one perhaps represented diffuse bilateral bronchogenic spread. Both clinical and x-ray response were marked in all four cases.

An eleven year old Negro girl was the only case of peritonitis in the series. She was admitted with a markedly distended abdomen containing free fluid and gas filled intestines. Her response to therapy was prompt and she made an excellent recovery. Although some writers have been impressed by the rapidity of resorption of pleural effusion, we did not admit any such cases to this series, as it was our experience that the results with triple drug therapy were rapid, leaving little or no pleural fibrosis.



Patient No. 8, Negro Man, aged 25. Four x-rays showing bronchopleural fistula developed under hormone therapy. Successful Left pneumonectomy.

Patient No. 8, a young Negro man, was admitted in very poor condition, with marked pyrexia and extensive caseo-exudative cavernous disease of the left lung. On methylprednisolone he had marked clinical improvement, but he developed a bronchopleural fistula on the left after thirty days. The steroid hormone was considered as a possible contributory factor in this complication and resulted in greater caution in the selection of cases. He eventually had a left pneumonectomy and favorable outcome.

The remaining cases had acute, exudative, caseo-cavernous disease, and all but Patient No. 13 were markedly improved by combined antimicrobial and steroid hormone therapy. Patient No. 13 had a small lesion about two years prior to admission, but was lost to follow up until she was admitted in very poor condition with extensive bilateral caseous disease. As a life saving procedure she was given adjuvant therapy, and she did well clinically at first, but required a maintenance dose of methylprednisolone or

triamcinolone. She developed huge cavities with fluid levels, and she eventually died of a combination of toxicity and cor pulmonale. It is impossible to assess how much the steroid hormones contributed to the formation of the large cavities, but they certainly prolonged life for about seven months.

Patient No. 12 was the first case on whom adjuvant therapy was used. She was a retreatment case and this was her second transfer from the Delaware State Hospital. She was cachectic and catatonic, lying in bed in the fetal position with the sheet pulled over her head. Her chest film showed giant cavities in each lung. On methylprednisolone she had a remarkable remission of her mental symptoms and became sociable. At the same time her appetite became good and she had such clinical improvement that she was able to walk in the grounds. She required a maintenance dose for about 19 months but eventually died of cor pulmonale from her "vanishing lung".

Patient No. 10 was a retreatment case, but his organisms had not become resistant to the antimicrobial drugs and he did well.

Patient No. 9 had a hematemesis about five months after the cessation of treatment and after investigation had a diagnosis of penetrating gastric ulcer.

Patient No. 7 had lower bowel hemorrhage, necessitating 2 units of whole blood prior to the institution of cortisone I.V. and later oral methylprednisolone therapy. Despite the contraindication, adjuvant therapy was given as he was critically ill from overwhelming disease of the lungs. He had an excellent clinical and x-ray response but died suddenly about 6 months after his discharge from hospital.

The remaining cases are not remarkable but all did well on adjuvant therapy. Time proved all cases to have organisms sensitive to the antimicrobials used, and all patients had conversion of sputum, so that the premise that *EFFECTIVE* drugs be used was fulfilled. In this series all cases receiving adjuvant therapy for severe forms of

tuberculosis were colored. The only two white patients, although they had active tuberculosis, were primarily given steroid hormones for drug allergy.

SUMMARY

There has been very slow acceptance in this country of the use of steroid hormones in the presence of active or inactive pulmonary tuberculosis. If the tubercle bacillus has not become resistant to the antituberculous drugs there is a very real place for steroid hormones as adjuvant therapy. The indications for adjuvant therapy are not absolute, except for tuberculous meningitis. Bearing in mind the possible side effect of the hormones, their use is not to be undertaken lightly. In this small series there was one case of bleeding peptic ulcer five months after cessation of therapy, one moderately severe acne, and one "moon face". In addition one patient had a blow-out of a cavity to form a bronchopleural fistula, which may have been due to lack of pleural reaction over the cavity from the effect of the hormone. Another case had marked excavation of dense caseopneumonic areas, and the use of steroid hormones in this case can only be justified as a life saving procedure, and as she had Addison's Disease. On the other hand it may be postulated that the case of peritonitis had freedom from adhesions because of the use of steroid hormones as adjuvant therapy.

Steroid hormones may be safely used in selected cases of active tuberculosis in combination with *EFFECTIVE* antimicrobial agents.

REFERENCES

1. Kinsell, L. W.: The clinical application of pituitary adrenocorticotrophic and adrenal steroid hormones, *Ann. Int. Med.* 35:615, 1951.
2. Johnson, J.R. and Davey, Winthrop N.: Cortisone, Corticotropin and antimicrobial therapy in tuberculosis of animals and man, *Am. Review of Tuberculosis*, 70:623, 1954.
3. Barre, E. and Lucas, J.: Results of Two Years of Steroid Therapy in Pulmonary tuberculosis. *Rev. de la tubers.* 19:1368, 1955.
4. American Trudeau Society, Medical Section of the National Tuberculosis Association, Indications for Adjuvant Corticotropin and Corticosteroid Therapy in Tuberculosis. A Statement of the Committee on Therapy, 76:708, 1957.
5. Bronchopulmonary Diseases by 142 Authors, Copyright (c), Paul B. Hoeber Inc., 1957.

THE IMPORTANCE OF VIRAL AND RICKETTSIAL DISEASES IN PUBLIC HEALTH

● Diseases of public health importance are caused by viruses and rickettsia which have been classified by the author in group form and might well serve as a practical reference guide in the physician's office.

IRENE V. MAZEIKA, M.D.*

Some of the diseases known at present as viral have been plaguing humanity since early times. Smallpox (*Variola vera*), worldwide in distribution, has been known for centuries. The animal form of rabies was known as early as 500 B.C., and its human form (Hydrophobia) was described by Celsus, Roman physician, in the first century. Trachoma was mentioned in many of the early Egyptian and Greek writings. There is also a suspicion that polio existed in ancient Egypt. On one of the murals there has been found a drawing where the pose and the forms of limbs of a young prince strikingly resemble those of a child who has had paralytic polio.

VIRAL DISEASES

The recognition of a filterable virus as an actual disease producing agent was first described by Ivanovski in 1892 and Beijerinck in 1898. Both scientists were working

with a virus causing "Tobacco mosaic" a disease which mottles tobacco leaves. The first animal disease virus was discovered by Loeffler and Frosch in 1898. It was the virus of foot and mouth disease in cattle. The first human disease suspected to be caused by a filterable virus was yellow fever. Nott in 1870 and Finlay in 1881, each asserted that a mosquito was the transmitter of the disease. Their assertion was proved twenty years later when Walter Reed, with three other coworkers from the U. S. Army Commission, certified that the mosquito *Aedes aegypti* actually is the transmitter of yellow fever. The agent itself was described by Bauer, Stokes and Hudson in 1928.

Discovery of the antibiotics spectacularly promoted the knowledge of virus disease in two indirect ways: Firstly, by excluding them from the category of bacterial infections, since most viruses are antibiotic resistant; and secondly, by the addition of

*Assistant Director of Laboratory, State Board of Health, Dover, Delaware.

antibiotics to the viral growth media to prevent bacterial contamination. This consequently made viral laboratory work easier and much more effective. During the last ten years the investigations carried out in virus laboratories have increased both in number and results. The small family of viruses has grown to over 400 members. The methods of isolating viruses, and consequently the possibility of overcoming them, are now making astounding progress.

At the present time all the viruses causing diseases of public health importance are divided into several basic groups, as follows:

I. *The Arthropod Borne Viruses* (*Arbor Viruses*)

The diseases due to infection with arbor viruses are sub-divided into two subgroups: A and B (on the basis of hemagglutinating reactions). To group A belong: Western equine encephalitis, Eastern equine encephalitis, Venezuelan equine encephalitis and several others. To group B belong: St. Louis encephalitis, Japanese B encephalitis, West Nile encephalitis, Murray Valley encephalitis (Australian), Dengue (Breakbone fever) I, Dengue (Breakbone fever) II, Russian spring-summer encephalitis, Louping ill, Yellow fever and several others. Two diseases caused by arbor viruses, Colorado tick fever and Phlebotomus (Sandfly), Pappataci) fever, are ungrouped. Lymphocytic choriomeningitis, spread by excreta of small rodents, although not an arbor virus disease clinically, resembles the picture of other diseases caused by arbor viruses and is therefore included in the group.

II. *The Enteroviruses*

The name of the group was coined because of the fact that the primary site of infection is the alimentary tract. To this group belong polio viruses types I, II and III, Coxsackie viruses group A and B, and ECHO viruses (Enteric Cytopathogenic Human Orphan viruses).

Polio virus with its three immunologic types is perhaps the best known and the

most effectively controlled of all viruses. There is evidence that single sporadic cases and small epidemics of the illnesses diagnosed clinically as paralytic polio are sometimes caused by Coxsackie or ECHO viruses. Other viruses as mumps, lymphocytic choriomeningitis, herpes simplex, herpes zoster, epidemic encephalitis, as well as leptospirosis (Weil's disease), sometimes cause aseptic meningitis which may be diagnosed clinically as polio. Paralysis, the most alarming sign of poliomyelitis, is actually its infrequent complication. The larger number of individuals with polio infection develop only abortive poliomyelitis with fever, headache, sorethroat and vomiting which last about 24-48 hours. In the more severe form there is pain and stiffness in the back, the neck, and other parts of the body, along with paresthesia. This form of polio may subside within 4-7 days or develop into a more serious form involving the muscles of legs, arms, thorax, intercostal regions and diaphragm (spinal paralytic poliomyelitis).

The most devastating is the bulbar form of polio which involves cranial nerves, especially those controlling the groups of muscles of the soft palate and pharynx. Paralysis of the respiratory and circulatory centers is of grave consequence. Practically all deaths in polio cases are attributed to the bulbar type. The symptoms of encephalitis may appear with any type of polio infection.

The Coxsackie viruses, group A, are responsible for pleurodynia (Bornholm disease, Epidemic myalgia, Devil's grip). A frequent complication is aseptic meningitis. The Coxsackie viruses, group B, are responsible for herpangina. Like group A, there may be an association with aseptic meningitis.

The ECHO viruses may be suspected in summer and fall epidemics of infant diarrhea (if bacterial origin is excluded). Infant febrile diseases with rash may be complicated by aseptic meningitis with or without paralysis.

III. *The Acute Exanthemata Viruses*

To this group belong: Measles (Rubella), German measles (Rubella), Exanthema subitum (Roseola infantum), Infectious rash (Erythema infectiosum) and Chickenpox (Varicella). Chickenpox and Herpes zoster are caused by similar (even suspected to be identical) viruses. The vesicles are identical, but in chickenpox they are dispersed on the skin and mucous membranes, and in Herpes zoster only in the area controlled by the affected sensory nerves.

IV. *Myxoviruses*

Included in this category are: Influenza A, B and C, and related viral infections of the respiratory tract. Mumps has recently been added to this group. Also, infections due to hemadsorption viruses I and II, and group associated viruses.

V. *Group*

To this group belong the largest of all known viruses: Miyagavanella and Chlamydozoon. Miyagavanella is responsible for psittacosis with extensive pulmonary involvement (may be complicated by encephalitis or diarrhea), Lymphogranuloma venereum and certain forms of pneumonitis. Chlamydozoon is the virus of Trachoma and Inclusion conjunctivitis. In Trachoma the cornea is usually involved (with resultant cicatrization). In Inclusion conjunctivitis the cornea is not involved and infection heals spontaneously.

VI. *The Adenoviruses*

These are responsible for a group of acute febrile infections: Acute febrile pharyngitis, Pharyngo-conjunctival fever (PCF), Acute respiratory disease (ARD), Virus pneumonia in infants and adults, Follicular conjunctivitis and Epidemic keratoconjunctivitis (EKC).

Clinical adenovirus infection was first reported in 1953. One virus of this group may produce many varied signs and symptoms. The typical textbook picture of an adenovirus infection may be given by either single or multiple viral agents.

VII. *Miscellaneous Viruses*

These include: Smallpox (Variola), Cowpox (Vaccinia), Viral hepatitis (Infectious hepatitis and Serum hepatitis), Primary atypical pneumonia, Herpes simplex and Papillomata. Smallpox and Cowpox are caused by closely related, but different, virus strains. Primary atypical pneumonia is usually divided into two types, the first of which is associated with the development of specific agglutinins (cold and streptococcus MG). The second may be of Adenovirus origin.

Infections caused by the virus of Herpes simplex are not as simple as the name would suggest. Primary infection occurs usually before three years of age, and the virus remains latent in the tissues for long periods of time. Under the right conditions the latency breaks down and disease recurs. Herpes simplex virus is responsible for a large number of clinical conditions which may affect the skin, mucous membranes, the central nervous system, or the entire body. Skin lesions usually manifest themselves as recurrent herpes simplex, Eczema herpeticum and Traumatic herpes. In the mucous membrane there may be acute gingivostomatitis, Kerato-conjunctivitis, vulvovaginitis and progeneralis herpes. The central nervous system may be involved with encephalitis and or meningo-encephalitis. Systemically these herpes infections clinically resemble la grippe. In newborn infants (especially prematures) fulminating visceral disease may occur. Warts of all types (juvenile, filiform, digitate, genital) laryngeal, etc.) are apparently caused by the same virus. The methods used at present in virus research laboratories still cannot detect the virus causing warts.

RICKETTSIAL DISEASES

Rickettsia are microorganisms which in biological classification are placed between viruses and bacteria. They were first described by Da Rocha, Lima and Topfer in 1916. Rickettsia may take the coccoidal, oval or bacillary form. They are found usually in infected cells. Two of the Rick-

ettsial diseases, epidemic typhus and trench fever, are transmitted from man to man by the louse. All others have in nature some living reservoir (mostly small rodents, dogs or larger animals) from which they are transmitted to man by bites of arthropods such as fleas, ticks or mites. All Rickettsial diseases are divided into four groups, as follows:

I. *Typhus Group*

This group includes epidemic typhus (Brill's disease) caused by *Rickettsia prow-azeki*. Endemic typhus is caused by *Rickettsia mooseri* and is transmitted by rat fleas. Scrub typhus is caused by *Rickettsia tsutsugamushi* which is passed along by mites from small rodents.

II. *Spotted Fever Group*

There are three main diseases in this classification. Rocky mountain spotted fever is caused by *Rickettsia rickettsii* carried by small rodents and transmitted by ticks. *Rickettsialpox* is caused by *Rickettsia akari* which is carried by the house mouse and transmitted by blood sucking mites. African tick fever, which does not affect us in this State, has *Rickettsia conorii* as the

infectious agent and is carried by wild rodents and dogs.

III. *Q. Fever*

This infection with *Rickettsia burnetti* is being found more commonly today. It is transmitted to humans from cattle, sheep, goats and possibly other mammals.

IV. *Trench Fever*

Trench fever (*Febris wolhynica*) acquired historical fame in World War I. The agent is *Rickettsia quintana* and it is transmitted by the body louse.

Modern laboratories have at their disposal many quick and excellent methods for the detection of numerous viral and Rickettsial diseases. There are approximately thirty different viruses on which these laboratories can furnish us with valuable information. The preparation of laboratory specimens for viral examination requires some special skill. A separate article is being prepared for distribution to physicians on this subject. It is hoped that physicians generally will become familiar with the use of the virus laboratory to assist them in differential diagnosis and subsequent therapy.

ALFRED WILLIAM PENNINGTON, M.D.

1903 - 1959

Dr. Pennington's unexpected death in Newark, Delaware on August 9th was a great loss to the Medical Department of the DuPont Company. Born in Newark, New Jersey, he was a graduate of Wake Forest College and received his M.D. from the Medical College of Virginia in 1929. After an internship at the Hospital of St. Barnabas in Newark, he did post-graduate work in New York City. Before joining the DuPont Company in 1948, he was associated with the Prudential Insurance Company in Newark, New Jersey.

Dr. Pennington was a Fellow of the American College of Physicians, the American Academy of Occupational Medicine, and the Industrial Medical Association. He was certified by the American Board of Internal Medicine.

He is survived by his wife and one son.

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	CF	Neut	HI		Acute	Convalesc.

CENTRAL NERVOUS SYSTEM

Poliomyelitis	+	+		Feces, Throat Washings, CNS, Spinal Fluid	Immed.	2-4 Weeks Later
Aseptic Meningitis	+	+		Feces, Spinal Fluid	Immed.	"
Herpes Simplex	+	+		Vesic. Fluid, Brain	Immed.	"
Mumps	+		+	Whole Blood, Spinal Fluid and Saliva	Immed.	"
Encephalitis	+	+	+	Whole Blood and/or Brain	Immed.	"
Lymphocytic Chorio- meningitis	+	+		Whole Blood and/or Brain	Immed.	2-4 Weeks & 8 Wks. Later

RESPIRATORY SYSTEM

Influenza	+		+	Throat Washings or Swab	Immed.	2-4 Weeks Later
Primary Atyp. Pneum.	+	+	(+ cold agg)	Throat Washings or Swab	Immed.	2-4 Weeks & 8 Wks. Later
Acute Respir. Disease ..	+	+		Throat Washings or Swab	Immed.	2-4 Weeks Later
Psittacosis	+			Throat Washings or Swab and Sputum and Bird Tissues	Immed.	"

MISCELLANEOUS

Measles	+			Blood, Saliva and Throat Washings	Immed.	2-4 Weeks Later
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SPECIAL STUDIES

Coxsackie	+	+		Feces, Throat Washings and Spinal Fluid	Immed.	2-4 Weeks Later
Echo	+	+		Feces, Throat Washings and Spinal Fluid	Immed.	"
Obscure Febrile Illness.	+	+		Feces, Throat Washings and Spinal Fluid	Immed.	"

INSTRUCTIONS FOR COLLECTION OF SPECIMENS FOR VIRAL DIAGNOSTIC TESTING

- 1) Collect whole blood in sterile test tube, let it clot and place into the refrigerator until ready for delivery to the laboratory. *Do not freeze!*
- 2) Put stool specimen into *sterile, wide-mouthed container, freeze* until ready for delivery to the laboratory. May be delivered unfrozen, if delivered the same day to the lab. Sterile containers imperative to avoid contamination with other viruses.
- 3) Sputum collect in sterile cup and place into the freezer until delivery to the laboratory, unless sent the same day to the lab.
- 4) Throat-swabs and washings should be placed into the freezer unless delivered the same day.
- 5) Spinal fluid—freeze until delivered to the laboratory unless delivered the same day.
- 6) Tissues (brain, liver, lung) should be handled with dry sterile forceps, placed into wide-mouthed sterile containers. May be kept frozen. Do not place tissues in any fixing solution.
- 7) Vesicular Fluid: use sterile capillaries or take swabs of ruptured vesicles and place into sterile tubes. Refrigerate or freeze unless delivered to the laboratory on the same day.
- 8) Any unusual specimen or problem please consult the virologist.

THE PATHOGE

IN KER



The ingestion of kerosine is one of the leading causes of accidental poisoning in children. According to Bain it accounts for 25 percent of the accidental deaths in children under 5 years of age in the United States. Fatalities occur in from 4 to 10 percent of reported cases (Blattner 1951). Parental carelessness in leaving pop bottles or coffee cans containing kerosine within reach of toddlers accounts for these accidents.

The best solution to the problem is to educate the parents about the hazards associated with the ingestion of kerosine.

When these children come into the hospital, the principal reason for concern is the pneumonitis which may follow. The physician is faced with some uncertainty regarding the course of treatment; the principal

question being the advisability of emptying the stomach by emesis and/or gastric lavage. The cause of the pulmonary injury has been a subject of controversy for a number of years. Some investigators find evidence to support the conclusion that only aspiration of kerosine is important and advise against lavage because of the danger of kerosine aspiration. Other investigators find evidence to support the conclusion that kerosine absorbed from the gastrointestinal tract can cause pulmonary damage. They recommend gastric lavage, to prevent absorption of the toxic substance.

To resolve these differences of opinion animal studies have been conducted by a number of investigators. Most recently (1954), Foley and associates concluded that pulmonary damage was not associated with kerosine ingestion unless it is aspirated and advised against routine use of gastric lavage. These studies evidently have not

*Medical Research Division, Esso Research & Engineering Co., Linden, New Jersey and The Bureau of Biological Research, Rutgers, State University, New Brunswick, New Jersey.

PULMONARY INJURY

POISONING AND INTOXICATION

- The author discusses kerosine ingestion and makes recommendations for its treatment, pointing out the pitfalls of some measures commonly in use.

HORACE W. GERARDE, M.D.

resolved the controversy since clinical reports are frequently seen which record the use of gastric lavage. Two hundred and four cases were reported in 1956 in a paper in which the statement is made "on admission immediate lavage with 2 oz. of mineral oil was instituted unless the child was drowsy or had vomited." (McNally 1956).

The purpose of this study is to assess the relative importance of gastrointestinal absorption and aspiration of kerosine and to elucidate the mechanism of the production of chemical pneumonitis using new techniques including quantitative chemical blood analyses. The results of these investigations are interpreted in terms of their significance in forming a rational basis for the treatment of clinical kerosine intoxication.

These studies include dosing rats, rabbits and chickens with kerosine by various routes of administration and determining

the concentration of aromatic hydrocarbons in the blood. The effects of mineral oil and olive oil diluents on the rates of absorption and elimination from the blood stream were also studied. In addition, a blue dye was



This shows what happened to rat lungs in a few minutes after the aspiration of a fraction of a ml. of kerosine. The normal lung is shown in the center. Examination of the lungs showed marked congestion and edema.



Chicken lungs after instillation of a fraction of a ml. of kerosine intra-tracheally show clearly the destructive path taken by the kerosine.

The glottis of a chicken is easily accessible for intubation when the bill is open wide.



added to the kerosine so that its presence could be detected visually. Gross and microscopic pathological findings were also included. Details of methods and techniques are published elsewhere (Gerarde 1959). The routes of administration were gastric intubation, intratracheal instillation, aspiration, subcutaneous, intraperitoneal and intravenous injection.

The chicken was used for aspiration studies since it is a convenient animal for studying the direct effects of chemicals on lung tissue. It is not necessary to do a tracheotomy on a chicken.

Our research has shown that a chicken can tolerate 30 ml. of kerosine in the stomach with no apparent ill effects. This indicates that the oral toxicity of kerosine is very low for the chicken.

One of the basic principles in treating poisoning by ingestion is prompt removal from the stomach to prevent systemic intoxication due to absorption from the gastrointestinal tract. If the oral toxicity of a chemical is high (low oral LD_{50}) induction of vomiting and gastric lavage may be life-saving. If the oral toxicity is low (high LD_{50}) the probability of a systemic intoxi-

cation is low and removal from the stomach is unnecessary. If induction of vomiting or gastric lavage serves no definite purpose it should be avoided because it presents the hazard of aspiration.

Some idea of the difference in toxicity by aspiration as compared with ingestion can be obtained by comparing the LD_{50} 's by these routes of administration. The ratio of the oral to the intratracheal LD_{50} for kerosine is approximately 140 to 1. This is an example of the axiom in toxicol-

ORAL TOXICITY OF COMMON LIQUID CHEMICALS		
CHEMICAL	LD_{50} (mg/kg)	TOXICITY CLASS
ACETIC ACID (RAT)	3,310	SLIGHTLY TOXIC
LACTIC ACID (RAT)	3,730	SLIGHTLY TOXIC
ISOPROPYL ALCOHOL (RUBBING ALCOHOL)(RAT)	5,840	PRAC. NON-TOXIC
ACETONE (RAT)	9,750	PRAC. NON-TOXIC
ETHYL ALCOHOL (RAT)	13,660	PRAC. NON-TOXIC
GLYCERINE (RABBIT)	27,000	REL. HARMLESS
KEROSENE (RABBIT)	28,350	REL. HARMLESS

On the basis of the oral LD_{50} , kerosine is rated in the class of relatively harmless chemicals.



This rabbit dosed with 5 ml. of kerosine by gastric intubation daily for a week, was slightly sedated by the end of the week and had a strong odor of kerosine but was otherwise normal.

These two rats each received 132 ml. of undiluted kerosine in multiple doses of 3 ml. over a four-month period.



ogy that toxicity depends on the portal of entry. The risk of aspiration is particularly high with kerosine because of its low surface tension which makes a small amount spread over a large tissue surface. This probably accounts for the gagging and choking which occurs when kerosine is swallowed.

Our studies demonstrated that rats, rabbits and chickens can tolerate repeated dosing with kerosine by gastric intubation without evidence of pulmonary injury.

Rats subjected to forty-four separate gastric intubations remained alert and normal in behavior. After four months the rubber catheter used became soft and limp and a new polyvinyl catheter was substituted. The animals died of pulmonary hemorrhage in a few minutes. The new catheter had a smaller diameter and did not adequately dilate the esophagus. Kerosine was regurgitated and aspirated causing massive pulmonary edema and hemorrhage.

The highest blood levels were found after dosing with a mineral oil kerosine mixture.

The addition of olive oil to kerosine has the opposite effect, resulting in decreased rate of absorption compared with kerosine alone. The diminished rate of absorption with olive oil is probably due to the diminution of gastric motility, a property known to be characteristic of fats. The concentration of hydrocarbons in the blood due to absorption from the gastrointestinal tract did not cause pulmonary damage in the experimental animals. On the other hand, we have found hydrocarbon levels ranging from 300-500 ppm after aspiration of 0.1 ml. of kerosine. These levels were associated with massive pulmonary hemorrhage and central nervous system effects.

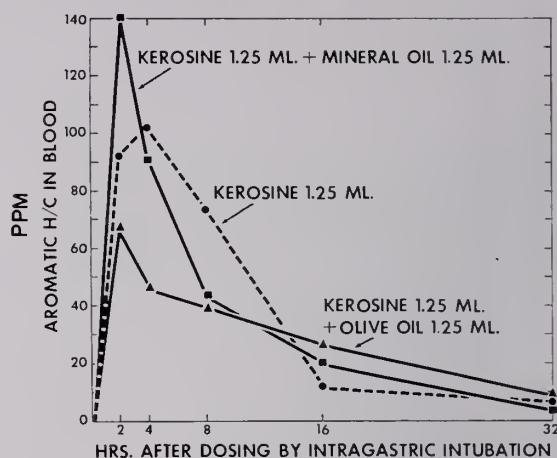
It has been reported in clinical studies of 101 cases that the amount of kerosine ingested ranged from a mouthful to a maximum of 3 oz. (Foley 1954). The blood levels resulting from absorption of the amounts of kerosine from the gastrointestinal tract would be far below the concentrations found in the animals dosed by gastric intubation. It is highly improbable that a child could accidentally ingest enough kerosine to cause pneumonia of hemogenous origin.

Summary

These studies suggest that pneumonia in clinical kerosine poisoning is due to aspiration of a relatively small volume of kerosine during or shortly after swallowing rather than due to blood-borne kerosine following absorption from the gastrointestinal tract. Since the oral toxicity of kerosine is low, the treatment should not include the induction of vomiting or other clinical procedures such as passage of a stomach tube for gastric lavage which may induce vomiting. Since anti-emetics are central nervous system depressants, they are contraindicated because sedation and stupor are frequently found in cases of kerosine poisoning. Positive measures recommended are (1) Oxygen if necessary, (2) Antibiotics prophylactically for the prevention of secondary bacterial pneumonia, (3) if the patient is conscious, ingestion of a vegetable oil or ice cream to dilute the kerosine, di-

minish the rate of absorption into the blood and soothe the inflamed mucous membranes of the gastrointestinal tract.

EFFECT OF DILUENT ON BLOOD LEVELS IN KEROSENE-DOSED RATS



This chart shows that the aromatic hydrocarbons in kerosine are rapidly absorbed from the gastrointestinal tract and are practically eliminated from the blood 32 hours after dosing.

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SYMPOSIUM ON STEROIDS

PLACE: Delaware Academy of Medicine

DATE: Saturday, November 7, 1959

TIME: 9:30 a.m.

OUT OF TOWN MEMBERS ON THE PANEL

JOSEPH J. BUNIM, M.D.
Clinical Director,
National Institute of Arthritis
and Metabolic Diseases

DAN B. GORDON, M.D.
Assistant Professor of Ophthalmology,
Cornell University School of Medicine

PHILLIP H. HENNEMAN, M.D.
Associate Professor of Medicine,
Director, Department of Endocrinology
and Metabolism,
Seton Hall College of Medicine

HENRY J. TUMEN, M.D.
Professor of Gastro-enterology,
Graduate School of Medicine,
University of Pennsylvania

"Use of Steroids in Arthritis and Related Diseases."

"Adrenal Steroids in Ophthalmology."

"The Endocrine Aspects of Adrenal Steroids."

"The Use of Steroids in Ulcerative Colitis and in Patients with Hepatic Diseases."

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1. Innerfield, L: Clinical report cited with permission

2. Clinical report cited with permission



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HEALTH PROBLEMS OF MIGRANT LABOR

● The many problems of controlling health among Delaware's 4000 or more migrant workers is presented in this concise report. The services rendered, both in the field as well as in the County Health Centers, prove that Delaware is protecting permanent residents as well as its migrant labor.

MAYNARD H. MIRES, M.D.*

In April 1957, the Governor of Delaware created a Committee on Migratory Labor, and charged them with the responsibility of making a continuing study of migrant labor in Delaware, and submitting recommendations arising out of that study. Asked to serve on this Committee were representatives of various departments of State government (Agriculture, Health, Public Welfare), the Council of Churches, Management (agriculture and food processing), and County Farm Bureaus, who were to be served by a 3-member advisory panel on sanitation and farm employment.

The State Board of Health at this time was busily seeking compliance with the new migrant labor camp regulation, which was concerned principally with housing and environmental sanitation. It seemed like a monumental task to inspect and license each of approximately 150 such camps throughout lower Delaware, and

then convince the camp operators that certain improvements and changes were vitally necessary. Everyone was pleasantly surprised, therefore, when farmer-operators voluntarily remodeled or repaired housing, installed fire extinguishers, provided a sufficient supply of safe water for drinking and bathing, and did a host of other things which help to make camp life more attractive.

Health an Important Crop

Of course, we are all interested in maintaining the health and welfare of our 7,000 or so seasonal farm workers, for we cannot do without them. The farm economy of Delaware is dependent upon having a large number of seasonal agricultural workers to harvest and process the crops. But, how shall we get to these people with information and let them know of our willingness to help? The problem is complicated by their constant mobility, poverty, lack of education, and lack of community accept-

*Director of Local Health Services, Delaware State Board of Health.

ance. Our goal now, as then, is to establish continuity of care by health departments in the so-called "migrant stream," which flows northward from Florida and Georgia through the Carolinas and Virginia into the Delmarva Peninsula and the Middle Atlantic States. If these people have no real "home," perhaps each of the interested states can provide a semblance of one, including the health services to which any local resident is entitled.

Such health services would understandably include immunization, chest x-rays, serological tests and treatment for syphilis, prenatal care and acute medical care facilities. Also there appears to be a real need for some form of health or hospitalization insurance which would not be the usual state-limited plan, but would allow one to contribute a portion of his earnings in each state along the way.

The "key man" in reaching these people is the crew leader, who acts as a father, banker, bill collector, business agent, disciplinarian, etc. for his group. Very likely he will accompany his people all the way from Florida to New York and back again. It is obvious, then, that we must deal with such men, no matter how unscrupulous some of them may be. An added reason, in the case of the Puerto Rican workers (10% of the total), is the ability of the crew leader to translate our plans from English into Spanish. (Some of us have subsequently studied Spanish, so we are no longer at his mercy.)

Extension of Health Care

Besides the regularly-scheduled clinics and conferences of the county health departments, which have always been open to migrants and their families, we feel that some of our services must be carried to the camps. One example, since that first summer of 1957, has been the Well Child Conference at Staytonsville, where the Delaware Council of Churches (Migrant Ministry) maintains a Day Care Center for children of migrant workers. Here the usual type of pediatric clinic may be seen, where

the clinician discusses growth and development of the child and gives the necessary immunizations.

Gaps in our program which eventually must be filled are: (1) the expansion of our pre-natal clinics from the two now existing in Sussex County (quite often a migrant's wife receives her first ante-partum attention after she arrives here); (2) the development of hospital out-patient facilities in the two lower counties.

Added Services

Another service rendered annually for the past three years concerns the control of tuberculosis and venereal disease. This program is one of those fine, heart-warming examples of cooperation among official and voluntary agencies, in this case, the Delaware State Board of Health, the Delaware Anti-Tuberculosis Society, and the Venereal Disease Division of the U. S. Public Health Service. Since budget and personnel are shared, the cost of the program is not especially burdensome to any one agency.

A health educator assigned specifically to this project contacts each of the camp operators and does the scheduling approximately two weeks in advance. The value of one man being responsible for this work is shown in the lack of confusion and duplication, the scheduling of workers from several farms at one unit location on a certain day, and the ability of the Mobile Unit to pick up several locations on one trip. The day before a farm is to be visited, this same health educator calls again to make sure all is in readiness.

Mobile Unit Operation

The Mobile Unit carries with it a full complement of two x-ray technicians, two blood-letters and two clerks. As each laborer walks on the bus, the registration blanks are filled out, one for chest x-ray and one for serology. Social Security cards, if available, are used for individual identification. Let us see how this program succeeded in 1958.

The 70 mm. films were developed and read within three days. Of the total 4,117 x-rayed, 39 or 0.9% were recalled as Tuberculosis Suspects. Thirty five of these came into the county health unit for a 14"x17" film and a more complete history after the employer had been contacted by the Public Health Nurse. To give credit where such is due, we must note here that some of these "retake" clinics were held in the evening, and that our personnel willingly worked long hours for the success of this venture.

Of these 35 persons who actually showed up for a large film, ten were categorized as "Urgent," eight fell into the active classification, one never had a diagnosis established, and the other one left Delaware before a diagnosis could be completed. Thus we may conclude that approximately 0.2% of our particular sample of migrants had active tuberculosis, certainly a much higher yield than that obtained from the local community-wide survey.

Results of Serology Survey

Blood specimens were obtained in a Sheppard vacuum tube which is a sterile, self-contained unit. The VDRL test was performed on each specimen in the State Board of Health laboratory, and the result known within 24 hours. Speedy work and good interdivisional cooperation meant that the reactor could be checked and, if necessary, treated before he moved on to the next state.

Of the 4,039 migrants' blood tested, 488 or 12% were found to have a positive VDRL. Each reactor was checked through the central registry to see if we had treated him previously for syphilis. If not, an epidemiological form was made out and assigned to a VD investigator, with the hope that this individual could be found and brought in to a VD clinic in the county health unit. At this clinic, a complete history was obtained and written on his record by the examining physician.

Now, it used to be a common saying among those who worked with VD in migrants that "they may not be the *best*

treated people in the country, but they are certainly the *most* treated!" We have tried to eliminate this condition by treating for syphilis only those migrants who showed a high titre, gave a history of previous inadequate treatment, or had no treatment at all. Eventually we hope that more extensive use of the "health card" by all the states in the migrant stream will decrease the need for even some of this treatment. Undoubtedly there are still some migrants who are subjected to an injection of 2.4 million units of benzathine penicillin G (Bicillin) everytime they enter another state with a positive serology. In our case, 70.2% of these reactors in 1958 were felt to require treatment.

The Clinic Comes to the Farm

There were times last year when we realized that the farmer-employer might resent our taking away his workers to the clinic for diagnosis and treatment. The alternative was to bring the clinic to the farm. A physician and a VD investigator visited the farm and held clinic in any appropriate place. . . . sometimes in a tool shed, a bunk house, or even the back seat of the automobile. We are sure that the farmer appreciated our efforts to keep his men on the job.

The 4,000 or more migrants who thus went "through the mill" in 1958 received *health cards* within a week from the time they stepped off the Mobile Unit. We know, from conferences held with our counterparts in other states, that the Delaware health card is now recognized and honored. This little wallet-sized card gives the following information: name and address, state or country of origin, social security number, work number (given by the Farm Placement Unit), date and results of chest x-ray and serological test for syphilis. The individual worker leaves Delaware with the feeling that here we are enough concerned to do all in our power to promote his health and well-being.

The author gratefully acknowledges the assistance of the following: Mr. Frank F. Pierson, Jr., Delaware Anti-Tuberculosis Society; Mr. Forrest D. Stokes, Venereal Disease Division, U.S. Public Health Service.

PAST, PRESENT AND FUTURE OUTLOOK OF



The Cancer Control Program of the State Board of Health began with the approval of Senate Bill No. 164 on April 9, 1947 by Governor Bacon. This act appropriated \$25,000 annually, beginning with the fiscal year 1947, for the purpose of detecting cancer, and for research, and other purposes related to cancer control and prevention.

On May 25, 1947 the Division of Cancer Control was established by the State Board of Health. In October 1949 the program began to take shape. The Medical practitioner was to be provided with more cancer services. Provision was made for the pathologi-

cal examination of biopsy specimens for physicians. Cancer information was made readily available to the physician. The informative publication "The Cancer Bulletin" was mailed to every physician and dentist in the State. Cancer pamphlets and cancer films for the medical profession were freely provided. Cancer record keeping was gradually improved until after consultation with various agencies, both state and national, the best system was adopted. The State Register was setup and its use is made available to all physicians.

In 1950 a Mobile Cancer Detection Unit was secured. This Unit brings services di-

*Director, Divisions of Chronic Diseases and Cancer Control.

CANCER CONTROL PROGRAM IN DELAWARE

● Cancer control marches on and with it the education of the public in all phases of detection and alertness to the symptoms of the disease. The State Cancer Control Program expects to meet the ever increasing demand for the reading of Papanicolaou smears with the acquisition of the cytoanylyzer when it is put on the market.

GEORGE F. CAMPANA, M.D.,*

rectly to various communities on request. In addition, permanent centers were established so that the public might obtain services readily. There are 11 such centers established for cancer detection examination strategically situated in the three counties. This service is intended for asymptomatic women 25 years of age and over. Appointments are made in advance. Usually a volunteer worker is assigned to do this work.

Cancer Detection Team

The team required to conduct the cancer detection examination consists of the following:

1. A volunteer worker furnished by the

Cancer Society—whose function it is to take a history of each examinee. The volunteer service saves much time which would otherwise have to be given by nurse or physician. The historian is skilled in taking the history without embarrassment to the examinee.

2. The Public Health Nurse instructs the examinee and prepares her for the examination. The nurse plays a big part in dispelling the fears and anxieties of the examinee.
3. The doctor who performs the physical examination and obtains both vaginal and cervical smears for,

4. The State Laboratory technicians who prepare and examine the slides for suspicious characteristics.
5. The pathologist—by whom all suspicious slides are checked. His findings (if positive) together with his recommendations are then forwarded to the family physician designated by the examinee on the history sheet, which is completed by the historian. Slides sent in by private physicians to the State Laboratory are similarly processed by the technician and pathologist and report on findings, negative or positive, sent to the private physician.

During the calendar year 1958-1959 smears sent in by private physicians averaged approximately a thousand a month.

Examination Procedures

The examination at the State Board of Health detection centers are done either by private physicians, a county health officer, or the director of the Cancer Control Division. The examination procedure is as follows:

The examinee strips completely and covers herself with a sheet. An inspection is first made of the skin of the back. If there are any suspicious lesions—the examinee is informed thereof. The inspection of skin on front of body is left for that time when patient is in supine position. The significance of moles is explained and the examinee is instructed to keep a close eye on them and consult her physician if there is any change whatsoever in their characteristics. No form of therapy is ever suggested to examinee.

After inspection of the skin the examinee sits upon the examining table facing the doctor. In this position, the breasts receive their first examination, inspection, then palpation. Then inspection and palpation for enlarged nodes of axillae, supra-clavicular region, and chest. After this the examinee is placed upon the table in the supine position. The head, face and neck are next examined. The mouth, including the teeth and gums are checked. Nodes of the head and neck

are palpated. While the physician examines the head and neck the nurse is checking the blood pressure. The physician palpates the thyroid gland and the adjoining areas for enlargement of nodes, sub-maxillary, and supra-clavicular.

The chest area is next to receive attention. The breasts are again examined, as are also the axillae and chest surface for enlarged nodes. The chest is then auscultated, particular attention being given to heart. Examinee is questioned relative to smoking and coughing (and advised regarding same) and reminded of the necessity of periodic chest x-ray. Abdominal examination follows together with palpation for enlarged inguinal nodes.

A gynecological examination is next. The external genitalia and rectal regions are inspected, after which the physician inserts a speculum (previously immersed in warm water) into the vagina. The vagina and cervix are carefully inspected and a note of the findings made. This is most important since knowledge of lesions of the cervical os are of invaluable assistance to the technician reading the slides. The physician is then ready to make his slide for the Papanicolaou staining and reading. The examinee has received no instruction regarding douching. We have found that most women douche sometime previous to the examination regardless of instructions. Two smears are taken by the physician. A special slide, 2 inches wide and 3 inches long is used. The slide is numbered on one of its 2 inch ends. The physician holds the numbered end of slide in his left hand so that firstly he can check the number and see that it corresponds to the number on the history sheet, and secondly, in order that he can always place the smears on the slide in the same order. The first smear is taken from the posterior fornix with a cotton tipped applicator. The material thus obtained, is placed on slide (rolling applicator between the thumb and index finger of the right hand, two or three times across the slide). This smear is made and placed on upper part of slide along its 3 inch length. It is

taken in order to assure one smear at least with no contamination of blood. Some bleeding may, and usually, does follow after taking second smear from cervical os with an Ayre spatula.

In most instances, the longer prong at the end of the Ayre spatula can be inserted into the cervical os. The spatula is then turned completely around once or twice, thus scraping the entire squamo-columnar junction of os uteri. The material obtained is immediately placed below the first smear beginning at the far end of the slide (starting over the edge of slide to rid spatula of mucus if present) and completing the smear in one horsehoe type sweep, a thin smear is thusly obtained. The slide is immediately placed in a solution of equal parts of 95 per cent alcohol and ether. The slide must be kept completely covered with this solution until fixed and ready for staining. (Papanicolaou method of staining is used in our Laboratory). Thirty minutes to an hour is considered sufficient time for fixing. For private practitioners sending slides to the State Laboratory, it is necessary after fixing their slide, to place a drop of glycerin over smear and cover it with another slide. This prepares the slide for mailing. The final procedure in checkup of the examinee is a digital rectal examination. When there is any indication a guaiac test for occult blood is also done.

Statistics

The following statistics are based upon the cytological smears received from the period of January 1, 1958 to December 31, 1958.

Total number slides received	9,648
Physicians:	
Total Smears	8,013
Classified negative	7,759
Classified suspicious	197
Classified positive	57
Board of Health Clinics:	
Total Smears	1,635
New Castle Clinics:	
Total Smears	383
Classified negative	374

Classified suspicious	8
Classified positive	1
Kent Clinics:	
Total Smears	620
Classified negative	589
Classified suspicious	27
Classified positive	4
Sussex Clinics:	
Total Smears	632
Classified negative	617
Classified suspicious	13
Classified positive	2

Cancer Control

From the foregoing statistics it will be noted that there was a rate of approximately seven positive per thousand from smears sent in by private physicians, and of approximately four per thousand from Board of Health Laboratory. This difference may be attributed to the fact that Board of Health Clinics are limited to the examination of asymptomatic women—whereas those who visit family physician almost always consult him when ailing. However, the rate of four per thousand compares very well with rates found in studies done elsewhere. A low yield in Papanicolaou positive smears would not detract from the value of the Cancer Control Program. Not the least in importance of the program is Health Education Value. Health Education, by word of mouth is considered the most effective form. Each examinee is instructed in self-examination of the breast by the physician and is given a booklet describing the procedure. She is urged to consult her physician immediately if she suspects anything wrong, regardless what part of the body. Ample time is given her to ask questions.

The examinee is always referred to her physician for any abnormal or suspicious physical findings. A few interesting statistics follow:

A study of 580 cases, (with only a few exceptions, all white), showed that 197 were in the age group 25 years to 35 years; 199 in group 35 to 45; 111 in age group 45 to 55; 56 in age group 55 to 65 years and 17 in ages 65 and over.

Health Education Stressed

It can be seen from the foregoing figures that better than 2/3 of the examinees were in the age group 25 to 45 years of age. There may be several reasons for this concentration of examinees in the younger age group. Perhaps older women are not as willing as the younger ones to get periodic check ups for cancer—mainly because of fear. Many oldsters actually do not want to know if they have cancer. Probably the most important reason for this turnout of the younger group is better health education of our school population by both the Department of Education and the State Board of Health.

Of the total 580 people examined, 208 gave a history of cancer in the family. Practically all of these with cancer histories in the family were from those of the younger age groups previously mentioned. Regardless of all the teaching to the contrary it seems that people are still of the opinion that cancer is, or may be a hereditary disease. Recent releases in papers and magazines have also helped foster this idea.

Physical findings on the examinees were many and varied. Skin conditions are too numerous to list. Eczema, psoriasis, comedones, sebaceous cysts, moles, etc., one such skin condition referred to the family physician was diagnosed as a basal cell carcinoma. Mouth conditions also and badly fitting dentures, were very numerous ranging from a ranula to ragged teeth. Many referrals have been made to dentists and physicians for mouth conditions. Other conditions found in various parts of the body, some of which, if not all, may be considered potentially precancerous, are here listed:

Prolapsed uterus	2
Cervicitis	7
Cervical Polyps	8
Cervical cysts	9
Cervical erosion	13
Cervical tares	several
Cystoceles and rectoceles	3
Urethral caruncle	5
Vaginal cyst	1
Vulvar warts	2
Vulvar leucoplakia	2

Bartholin cyst	2
Hypertrophied thyroid	2
Enlarged glands	4
Breast tumors	4

In addition to the foregoing, sebaceous cysts, varicosities, bone conditions, eyes, ear and nose conditions were frequently found. In one instance an examinee was referred to her physician on the basis of a history alone (rectal symptoms), digital examination of rectum being negative. Further examination by the family physician disclosed a rectal ulcer. In many instances after referral of examinee to family physician a follow-up becomes impossible so that the cancer division cannot always obtain satisfactory statistics in this regard. Therefore, we do not always have definite corroboration of our findings by private physicians.

One The Alert

Since the start of the State Cancer Control program the number of Papanicolaou smears sent for examination to the State Laboratory has increased many fold. As previously indicated, the laboratory averaged approximately 1000 per month from private physicians. It is believed that the number will continue to increase. The laboratory has taken steps to meet the increased demand for reading of smears. During the past year three persons have been trained to read Papanicolaou smears. If, and when, the much spoken of cytoanalyzer is perfected and put on the market, it is anticipated that one will be procured by the State Board of Health. This no doubt will solve the problem of any increase in the load of Papanicolaou smear examinations.

The Director of The Cancer Division looks forward to the biannual examination of all women age twenty-five and upwards. Statistics show that approximately 20 per cent of all cancers are in the breast and a little less than 20 per cent the uterus. Approximately another 10 per cent are in the skin. If these sites alone were regularly checked by the physician, the cancer toll among women could be drastically reduced. It can be done and the doctors office is the logical place for cancer detection.

SCHOOL HEALTH EXAMINATIONS

IN DELAWARE

● The health of our citizens of tomorrow is greatly dependent on the School Health Program. The author urges physicians in each community to stand by and cooperate with school authorities in promoting the safe, healthful environment which is the right of each child.

EDWARD F. GLIWA, M.D.*

Medical examinations performed as part of the overall school health program serve two purposes. One is to check pupils who are suspected of having some deviation from normal health. This is usually a referral type of examination with the physician being asked to examine a pupil because something was observed or reported either by the teacher or school nurse. The other purpose is to appraise periodically the health of an apparently normal healthy individual. Periodic medical examinations performed in the school are limited in scope and intended only to determine the child's ability to make satisfactory progress in school. Of the two types of examination mentioned, the referral type should and does receive priority. If any condition is detected requiring further examination and treatment, the pupil is referred to his family physician or to an appropriate clinic.

Examination by Cross-Section

The frequency of periodic examinations in the schools varies in different areas. After careful consideration of the medical

resources available in Delaware, the State Board of Health and the State Department of Public Instruction decided that the best use of these resources in meeting the health needs of school children would be maintained by examining selected grades; namely, the first, fourth, seventh, and eleventh. In addition, children referred as a result of screening tests or health observations of teachers and transfer students without medical records would be examined. In previous years an attempt was made by the Health Officer to examine as many of these children as possible. However with the increase of the school population we were able to examine only a small fraction of the total in this selected group.

Fee for Service Basis

In 1957 a new program was inaugurated in the public schools in an attempt to overcome this void in our school health program. First the 119th Legislature provided sufficient funds to the State Board of Health to pay local physicians on a fee for service basis to conduct the medical examinations in the school. Although some diffi-

*Deputy State Health Officer, New Castle County.

culty has been experienced in obtaining local physicians in a few areas throughout the state, this has not been the experience in New Castle County. The schools in New Castle County have received excellent co-operation from the members of the medical profession.

Personal Physician Preferred

The other phase of this new program was to have as many pupils as possible examined by their personal physician. This phase is stressed very heavily since it is quite apparent that the family physician knows the child's background history and is in the best position to make a thorough appraisal of the child's health status, including explanations and discussions with the parents. A form known as the Delaware Pupil Medical Record was designed for this purpose. The pupil presents this form to his personal physician upon which the physician records all pertinent health information. This form is then returned to the school for their use. This phase of the program too has been highly successful in New Castle County as is borne out by the fact that two-thirds of the pupils in the selected grades were examined by their personal physician, leaving

only one-third of the total to be done by the school physician.

In order for the pupil to benefit most from this examination, it must be sufficiently comprehensive to command medical respect and be sufficiently informative in that it will aid school personnel in making necessary adjustments to any health problems a child may have. When these two conditions are met, the examination will also provide a good educational experience for the child.

Summary

An attempt is made to briefly explain one small phase of the total school health program. Although medical examination directly involves the members of the medical profession, it by no means excludes them from participating in other phases of the school health program. The physician in the community should become acquainted with all phases of the school health programs and be ready to act as advisor to the local school authorities in providing the best health service, health education, and provisions for a safe and healthful environment which would contribute immeasurably to the total health of the child.

ERRATA

The Journal regrets the following errors that appeared in the August issue:

- ✓ page 249 — the generic name for Dartal is "thiopropazate dihydrochloride" and not "dihydrochloride" alone as was printed.
- ✓ page 238 — unfortunately, the author's meaning was inadvertently changed during the editing of the last paragraph in the first column. The passage, exactly as it was received from the author, is as follows:

"Finally a drawing be presented which a 41 year old man did who, because of his delusions with clouding of consciousness and his depressive, at times ecstatic experiences, might be best classified as a psychotic of the oneiroid type (MAYER-GROSS)."

THE INTAKE INFORMATION NEEDED IN THE REFERRAL OF PATIENTS TO A MENTAL HYGIENE CLINIC

JOSEPH BERN, M.S.W.*

Many physicians in the community have inquired about what kind of information should be supplied by the physician in referring one of their patients to the Mental Hygiene Clinic.

The purpose of this paper is to answer and clarify this question and also to outline some of the intake information the psychiatric social worker at the Mental Hygiene Clinic obtains from the patient and/or his family to aid in the diagnosis and treatment of the patient referred.

The Intake Information Requested From The Referring Physician

The intake information requested from the referring physician, which incidentally has been agreed upon by the Mental Hygiene Clinic psychiatrist, psychologist, and psychiatric social worker, to be basic to the proper handling of the patient's problem, is as follows:

1. *Description of problem, behavior and symptoms.*
2. *Onset and duration of problem, behavior and symptoms.*
3. *Relationship of problem, behavior and symptoms to other persons.*
4. *Patient's own estimate of his behavior, problems and symptoms.*
5. *Was there any previous psychiatric treatment or psychological testing done? If so, where are copies of reports and what is being requested*

to be forwarded to the clinic? (If this is not covered in reason for referral.)

The Intake Information Supplied By The Psychiatric Social Worker

The administrative staff of the Mental Hygiene Clinic, appreciating the fact that the community physician has only a limited amount of time to spend with each patient, has had to supplement the basic information about the patient's problem by employing the services of the psychiatric social worker. The psychiatric social worker supplements the basic information prepared by the referring physician by reviewing with the patient and/or his family the following material, which is incorporated into the Mental Hygiene Clinic record as the Social History:

PERSONAL HISTORY:

1. *Birth and early development:* What is the person's birthdate? Was it a full term birth? What were the details of delivery? Was there any birth injury or trauma? What was the birth weight? Where does the child come in the family constellation? What was the age at which the child walked, talked? When was toilet training started and when was it completed? What was the technique of toilet training? Was it easy or difficult? Was there any feeding problem? Was there any enuresis (lack of bladder control) or encopresis (lack of bowel control)?
2. *Health:* Note particularly any illness or accident which may suggest organicity. Note if there was any treatment for any diagnosed brain injury, etc. What were the childhood diseases, the severity and duration? Were

*Chief Psychiatric Social Worker, Mental Hygiene Clinic, New Castle County.

there any high temperatures, or operation, or convulsions, or head injuries? Look for whooping cough with severity and complications.

3. *Habits:* Were there any unusual problems with the person's eating habits or appetite? What was the sleep pattern, was it disturbed? Nightmares? Are there any problems around bed-wetting? Are there any unusual sex habits or masturbation and what are the attitudes toward these things by the parent or parent substitute or patient? Were there any tics or any involuntary movements, nail biting, head jerking, etc?
4. *School History:* What school is attended at present and what is the present school grade, or in the case of an adult, what schools were attended and what was the grade reached? In the case of an adult, what was the reason for leaving school? What are the attitudes toward school in general and teachers and peers? What types of marks were attained? Were there any discipline or behavior problems in school and did the school authorities or Division of Child Development and Guidance work with the patient on this problem?
5. *Work History:* List the number of jobs and what types of jobs they were and the skills and training for the jobs. If there were frequent job changes, why was this found necessary? List also the present employment and where the person could be contacted on the job if necessary.
6. *Personality and disposition:* Note any outstanding personality traits. Is patient hostile; negative, depressed, expressing inappropriate affect (feeling), hysterical, etc.? In the case of children, does the child have temper tantrums or a behavior problem relating to parental or parent substitute discipline? Is the child affectionate and how does he express affection? How does the child express hostility?
7. *Marital History:* Date of marriage if any or whether the person is engaged or if there is any unusual broken engagements or indecisions. What is the name of spouse if any and if the address is different, state the address. How many marriages took place and if there was more than one, what was the reason for separation or divorce. Who are the other spouses and where are they living? Give details of the spouse in terms of his education, age, occupation and general personality. Were there children born of the various marriages? Number the children chronologically and give names, ages, school history and any pertinent information which may affect this history.
8. *Interest and hobbies:* Note if patient does any reading, what type. Has he picked up any mis-

leading information from medical articles or books? What other interests does he have?

9. *Religion:* Does person make a fetish out of religion, has person had any hallucinatory activity involved in religious practices? How often does person attend church if he does? Does he attend alone or with other family members? What group or denomination does he belong to?

FAMILY BACKGROUND INFORMATION: Any mental illness, epilepsy, mental deficiency or history of physical or mental abnormality in the immediate family or origin?

1. Father, name, age, occupation, any pertinent cultural, social, religious, educational or any background which may be significant to patient.
2. Mother, same as for father.
3. Siblings (other than patient): State in which order in sibling group patient is in—if this is significant. Number the siblings in chronological order and give names and other details as above given for the father and mother.

HOUSING: Is there any significant thing is sleeping arrangement, etc. that affects patient or could affect patient? What are the housing accommodations like? From the informant's description does it appear adequate to meet the needs of patient and/or family with whom he is living? If you visited the home what impression did you get?

ECONOMIC STATUS: What is the current income of patient, if any and what is income coming into household? Is it adequate to meet the needs? What are the sources of income of various family members? Does the patient or family feel that he or they can contribute toward the cost of Mental Hygiene Clinic services?

SOCIAL SERVICE EVALUATION: Social worker's personal impressions and estimate of problems which appear likely for further clinic evaluation.

The Intake Information Integrated Within The Diagnosis and Treatment Plan

After this information is obtained from the referring physician and the psychiatric social worker, the stage is set for the next step, namely the psychiatric and psychological evaluation.

After the complete medical, social, psychological and psychiatric evaluation and staff meeting of the various team members of the Mental Hygiene Clinic staff, a final diagnosis is made and a treatment plan evolved.

PRESIDENT'S PAGE

DEDICATION

The dedication next month of the new Delaware Academy of Medicine Building should give rise to many thoughts about our public relations in the strict sense — about medicine's place in the community. It's a singular place that the doctor occupies, for he carries the responsibility for action — action in confronting the oldest and most primitive concern of our race, the care of the body of man. All of us are aware of the responsibility, some of us awed by it, and a few are occasionally oppressed by its weight. The tendency of the medical profession, in some instances, is to regard itself as isolated and alone and to sublimate concern over the situation into an uneasy worry that we as a group, although needed, are not understood.

Our new building, a very proud possession, is a warm reassurance that some of our faults are forgiven and some of our virtues remembered. In large part, it is a gift from our non-medical friends, many of whom have given and some of whom have given most generously to our need. This we cannot help but deeply appreciate. It is also a reminder not only that we are not alone, but also that we could not be so if we wished.

The doctor is, and wants to be, involved in service to mankind. This is why every physician worthy of the name entered the profession. Our failures to understand and to be understood by the public are more often due to inability to clearly transpose points of view than to lack of goodwill and intent.

The new building is tangible evidence of our indebtedness and responsibility to the public. As an enlarged and more efficient facility for continuation education, it is also one means for repaying our debt to this public. It will be of great help in the constant raising of the standards of practice that we have undertaken, and must continue to do, not only for the benefit of the public, but also that it may be said of us that we are doing our best. We cannot do less, and no one can ask more.



President, Delaware State Medical Society

In Brief

Clinical Studies

The National Institutes of Health, Bethesda, Md., wish to contact physicians in this area who are interested in referring patients for observation and study in connection with two clinical syndromes.

The National Cancer Institute is conducting a new study of the carcinoid syndrome — a slowly progressive, malignant disorder which primarily affects middle aged or elderly persons — and requests that such patients be referred prior to the advanced bedridden stage.

Contact: National Cancer Institute (Oliver 6-4000), Bethesda 14, Maryland. Dr. Charles G. Zubrod, Clinical Director (Ext. 4346).

The Institute for Arthritis and Metabolic Diseases is enlisting the cooperation of physicians in sending patients who manifest the symptoms of Sjörge's Syndrome, particularly those with dryness of the eyes and filamentary keratitis or xerostoma.

Contact: National Institute of Arthritis and Metabolic Diseases, Bethesda 14, Maryland (Oliver 6-4000). Dr. Joseph J. Bunim, Clinical Director (Ext. 4181).

A Time and A Need

Several communities in the Country have taken advantage of the experimental plan fostered by the Sears-Roebuck Foundation to assist in establishing medical practice facilities for physicians in areas where there is need. If a community which already has a doctor desires to build a unit to assist in keeping its doctor and improve the community's medical care, blueprints and specifications will be provided by the Foundation. For particulars or application blanks write:

Director, Sears-Roebuck Foundation
Eastern Territory
4640 Roosevelt Blvd.
Philadelphia 32, Pa.

On the Up-and-Up

Surveys reveal that the American public is becoming increasingly aware of the value of health, hospital and surgical insurance. The Health Insurance Council reports that 123 million persons — 70% of the total civilian population — were protected by health insurance as of December, 1958.

The number of insured persons in Delaware alone climbed 12,000 in the past year to a total of 341,000. The number with surgical expense insurance increased from 308,000 to 323,000 while those protected by regular medical expense insurance increased from 278,000 to 288,000 during 1958. The Institute reports that some 75.8% of the State's estimated current population now has some form of health insurance.

Snake Bite Serum

The A.M.A. News reports that the Philadelphia Herpetological Society has set up a supply of snake bite serum for all North American snakes plus cobra and coral species for emergency use only, on a 24 hour basis. When serum is not available locally, MDs can get it quickly by calling Philadelphia:

Pilgrim 2-9498 or Haddon Heights, N. J.: Lincoln 7-5798.

Salk Smoke Signal

The National Foundation reports that 68% of the highly susceptible group of persons (under 20 years of age) have completed the Salk inoculations. Within this group, the most susceptible of all are pre-school children, of whom only 51% completed the Salk shots. Considerable numbers of people who started the series have not completed them. With the incidence of polio rising as fast as it has this year, figures—showing that 109.4 million Americans are still unprotected by the Salk vaccine—point up a dangerous situation. The fourth booster shot (given one year after the basic series of three) is now recommended by the U. S. Public Health Service and by the National Foundation.

The Delaware State Board of Health reports that 690,000 doses of Salk polio vaccine have been given to persons under 40 years of age in Delaware since the beginning of this program. If all eligible persons had received four doses, a total of 1,100,000 doses would be necessary. This indicates that our eligible population in Delaware is about 60% protected.

It is urged especially, that children under 5 years of age, and that the group of persons over 20 years of age, begin and complete, polio immunizations.

Scientific Sessions

Two Wilmington doctors will be part of the program when District III of the American College of Obstetricians and Gynecologists holds its annual meeting in Hershey, Pa. at the Hershey Hotel, October 9-10. Dr. George H. H. Garrison, will preside as an officer of the College at the scientific sessions and Dr. Richard C. Hayden will present a scientific paper.

We Recommend

The Public Affairs Committee has released a new pamphlet "*Help for Family of Cancer Patient*" which attacks the subject from a fresh angle, notably warm, with a personal reach to the heart. Families who must adjust their lives to the hard fact that one in their midst has been stricken, will find solace in the suggested ways of handling the situation both before and after surgery. This non-profit booklet is available for 25 cents from the Committee's office:

22 East 38th Street, New York 16, N. Y.

Noteworthy

The Dow Corning Center for Aid to Medical Research has been established to cooperate with the medical profession in finding ways to use the unusual properties of silicones in medicine and surgery.

Dr. Rob Roy McGregor, Director of the Center or Mr. Silas A. Braley, Executive Secretary, will cordially welcome inquiries and place their services and those of their associates at the disposal of the medical profession without charge. All information about medical for publication is granted.

research will be held in strict confidence unless specific permission is

Contact: Dow Center for Aid to Medical Research, Midland, Michigan, Temple 2-2371.

+ Editorials +

EDUCATION

The remainder of 1959 and the beginning of 1960 will see the most outstanding educational programs ever to be presented to the medical profession of Delaware; programs rarely equalled in much larger states.

The annual meeting, realistically scheduled for a single day, will feature a subject chosen for its interest and importance—Geriatrics. President Shands has obtained the greatest authorities in the field to present a program that will be remembered for years.

On thirty successive Tuesdays beginning October 6th, the staff of the Pennsylvania Hospital will present a series of short wave radio seminars on subjects selected by YOU. The time (12:30 to 1:30) will allow many to combine the lecture with lunch. This is *your* program.

FIVE MINUTES OR ETERNITY

The laws of Delaware state that an ambulance, as an emergency vehicle, is allowed to proceed through a red light as long as it uses caution such as *flashing its red light and sounding its siren*. Despite this caution, ambulances continue to be involved in collisions. Several years ago such a collision resulted in loss of life.

Our legislators can not be expected to rewrite law so long as public opinion exists that an ambulance should save minutes in order to save lives. Rarely, if ever, is five minutes a factor between life and death of a patient. Certainly, this is not a factor as often as ambulances are involved in accidents. Some of these crashes have occurred while the vehicle was empty or involved in a non-emergent call.

This problem admittedly has many facets. A shortage of ambulances making imperative the rapid return of the vehicle from each call is a large factor. Volunteer personnel, justifiably anxious to return to their place of gainful employment, sometimes tend to overemphasize the importance of speed.

Let us as physicians do our small part by taking a stand against speed and recklessness as being a necessary part of emergency treatment.

THE NATIONAL INSTITUTES OF HEALTH

The National Institutes of Health in Bethesda, Md., were established for the specific purpose of the proper and intensified study of certain diseases over a definite period of time. They will accept for treatment, patients recommended by their personal physician. The only qualifications are that the patient has a condition in the stage under clinical study at the time of the desired admission. The patient must agree to stay as a patient in the hospital for the period of time recommended by the physicians in charge. The benefit to the patient is tremendous when balanced against this slight inconvenience as he receives the very best care for his particular condition without charge at any time.

An announcement appears elsewhere in this issue of the Journal advising physicians of Delaware what conditions are under study at the present time and how arrangements can be made for their treatment at the National Institutes of Health. This is a tremendous service that is available to some of our patients and it deserves more utilization than it has received in the state of Delaware up to the present time.

CONTRIBUTOR'S COLUMN



Dr. Horace W. Gerarde

Dr. Gerarde, staff member since 1952 of the Medical Research Division of the Esso Refining and Engineering Company, heads the toxicological investigations which are being pursued by the division. A native of Rockford, Ill., Dr. Gerarde, received his M.D. from the University of Wisconsin. In 1951 he obtained his Ph.D. degree in biochemistry from the University of Iowa—writing his thesis on "Metabolic Studies in Tissue Culture." He is a member of the State of Wisconsin Medical Society, the New Jersey Medical Society, the American Medical Association, the Industrial Medical Association, and the American Hygiene Association.

Dr. Gerarde has published more than twenty papers dealing with the chemistry of proteins, blood clotting mechanisms, the synthesis of proteins in tissue culture and the toxology and metabolism of hydrocarbons. In 1958, he was co-author of a book on acute intoxications.



Joseph Bern, who holds an Advanced Curriculum Certificate in Psychiatric Social Work and an LL.B., is interested in community organization for mental health and mental health legislation in relationship to the medico-legal and social work professions. Mr. Bern is presently engaged in completing his doctoral program at the Brandeis University.

Dr. Nathaniel Young, conducted a private practice in Sheffield, England before coming to Canada as a staff member of Muskoka Hospital for Consumptives. From there he joined the Glen Dale Chest Disease Hospital in Washington, D. C. Dr. Young is a Major, M.C. in the Delaware National Guard and a Fellow of the American College of Chest Physicians and member, American Trudeau Society and Eastern Trudeau Society.



Dr. George F. Campana, M.P.H., Johns Hopkins, has served as Health Officer in N. Y., Mass., N. H. and N. Dakota. He is a Fellow of the American Public Health Association and the American College of Preventive Medicine, Member of the Trudeau Society, Royal Society of Health, American Board of Preventive Medicine and Charter Member of the American Association of Public Health Physicians.



Dr. Maynard H. Mires, M.P.H. (Harvard, cum laude), has acquired valuable experience in Mississippi and Texas in malaria and typhus control activities, in Thailand with a Special Technical and Economic Mission and as Director of Communicable Diseases for the Vermont State Dept. of Health. He is a member of Delta Omega, the honorary public health society, and a Fellow of the American Public Health Association.



Dr. Edward F. Gliwa, Jefferson Medical College, '46, interned at Wilmington General. He holds an M.P.H. degree from Johns Hopkins University and in 1955 was admitted to the American College of Preventive Medicine and was certified by the



Dr. Irene Mazeika has held staff appointments in various clinics and hospitals in Lithuania. In 1944 she received the additional title of Physician-Specialist in Bacteriology, issued by the Supreme Health Administration of Lithuania. Coming to the U.S.A., she received a staff appointment to Johns Hopkins' School of Hygiene and Public Health. Dr. Mazeika is a member of the Society of American Bacteriologists and the American Public Health Association.

MAJOR MEDICAL MEETINGS IN DELAWARE

Standing Schedule

Beebe Hospital	General Staff	2nd Friday	Monthly
Delaware Hospital	General Staff	2nd Tuesday	Feb., May, Sept., Dec.
Kent General Hospital	General Staff	3rd Tuesday	Monthly
Memorial Hospital (Wilmington)	General Staff	2nd Tuesday	Jan., March, June, Oct.
Milford Memorial Hospital	General Staff	2nd and last Tuesdays	Monthly
Nanticoke Memorial Hospital	General Staff	1st Thursday	Monthly
St. Francis Hospital	General Staff	4th Tuesday	March, May, Oct.
		1st Tuesday	December
Wilmington General Hospital	General Staff	4th Tuesday	Jan., April, Sept., Nov.
◆			
Kent County Medical Society	Monthly Meeting	3rd Tuesday	September - June
New Castle County Medical Society	Monthly Meeting	3rd Tuesday	September - June
Sussex County Medical Society	Monthly Meeting	2nd Thursday	September - June
◆			
Delaware Academy of General Practice	Monthly Meeting	1st Tuesday	September - June
Delaware Pathology Society	Weekly Meeting	Each Friday	

Special Schedule

Delaware Academy of Medicine	Bldg. Dedication	Academy of Medicine	October 14, 1959
Medical Society of Delaware	Annual Meeting	Academy of Medicine	October 15, 1959
Delaware Division, American Cancer Society	Annual Meeting		October 17, 1959
Delaware Academy of Medicine	Symposium on Steroids	Academy of Medicine	November 7, 1959
Delaware Academy of General Practice	Annual Meeting	Academy of Medicine	December 5, 1959

LECTURE COURSE

Subject: Basic Electrocardiography	Place: Memorial Hospital, Wilmington
Schedule: Part I	Schedule: Part II
Time — Every Thursday afternoon 4-5 p.m.	Time — Same as for Part I
Dates: From October 29, 1959 through February 25, 1960	Dates: March 3rd through March 31st, 1960
	<i>Arrangements must be made for Part II only.</i>

For full details regarding this series write to the Director of Medical Education, Memorial Hospital, Wilmington

TWO-WAY RADIO CONFERENCES FOR THE COMING MONTH

Sponsorship: *Medical Society of Delaware, Pennsylvania Hospital, Smith Kline & French Laboratories.*

Date Topic and Faculty

Oct. 6 — "Use and Abuse of Antibiotics," E. L. Foltz, M.D., Ass't. Prof. Med., and Assoc. in Clinical Pharmacology, University of Pennsylvania School of Medicine.

Oct. 13 — "Follow-Up Care of Malignancies," Orville C. King, M.D., Director, Division of Surgery, Pennsylvania Hospital.

Oct. 20 — "Toxemias of Pregnancy," James D. Garnet, M.D., Ass't. Obstetrician and Gynecologist to Pennsylvania Hospital.

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six to eight hours, provide excellent relief all day. In patients who are unable to retain oral medication when first seen, Mornidine may be administered intramuscularly in doses of 5 mg. (1 cc.).

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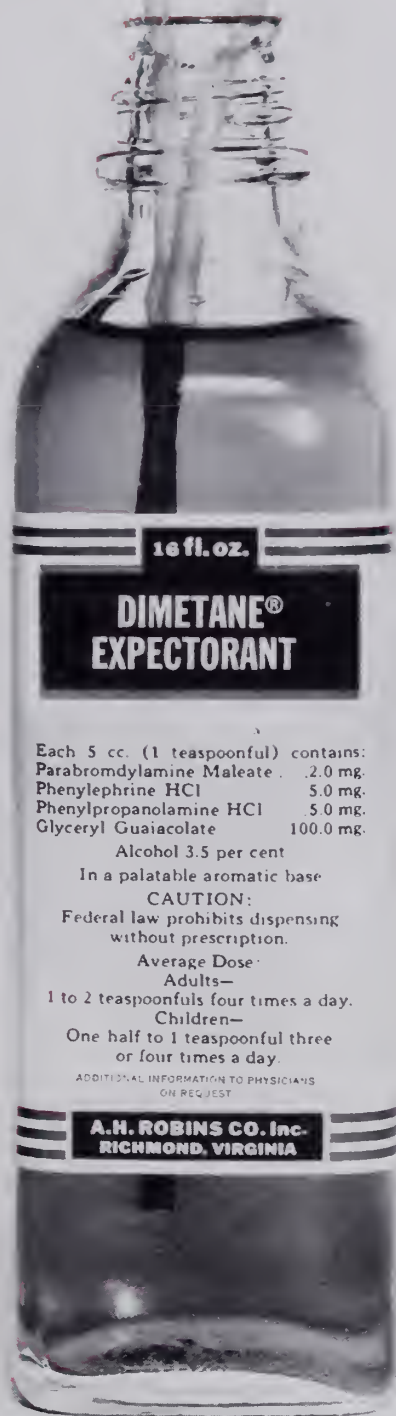
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Course begins Wednesday, October 7, 1959 at 10:00 a.m. Continues each Wednesday, 10:00 a.m. to 3:00 p.m. for 20 weeks. Total of 80 hours.

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References: 1. Finkelstein, M., et al.: J. Pharmacol. & Exper. Therap. 125:330 (April) 1959. 2. McHardy, G., et al.: Postgrad. Med., in press. 3. Winkelstein, A.: Amer. J. Gastroenterol., in press. 4. Finkelstein, M., et al.: Presented at Fall Meeting, Amer. Soc. Pharmacol. & Exper. Therap., 1958. 5. Leming, B.: Clin. Med. 6:423 (March) 1959. *Trademark

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CITED REFERENCES: 1. Clark, G. M.: Personal Communication, 1958. 2. Feldman, H. A.: Personal Communication, 1958. 3. Scully, F. J.: Treatment of Rheumatic Disorders with Choline Salicylate (to be submitted for publication). 4. Friedland, C. K.: Personal Communication, 1958. 5. Complete data available on request to the Medical Director.

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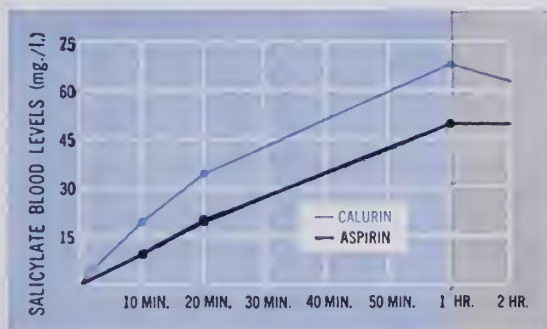
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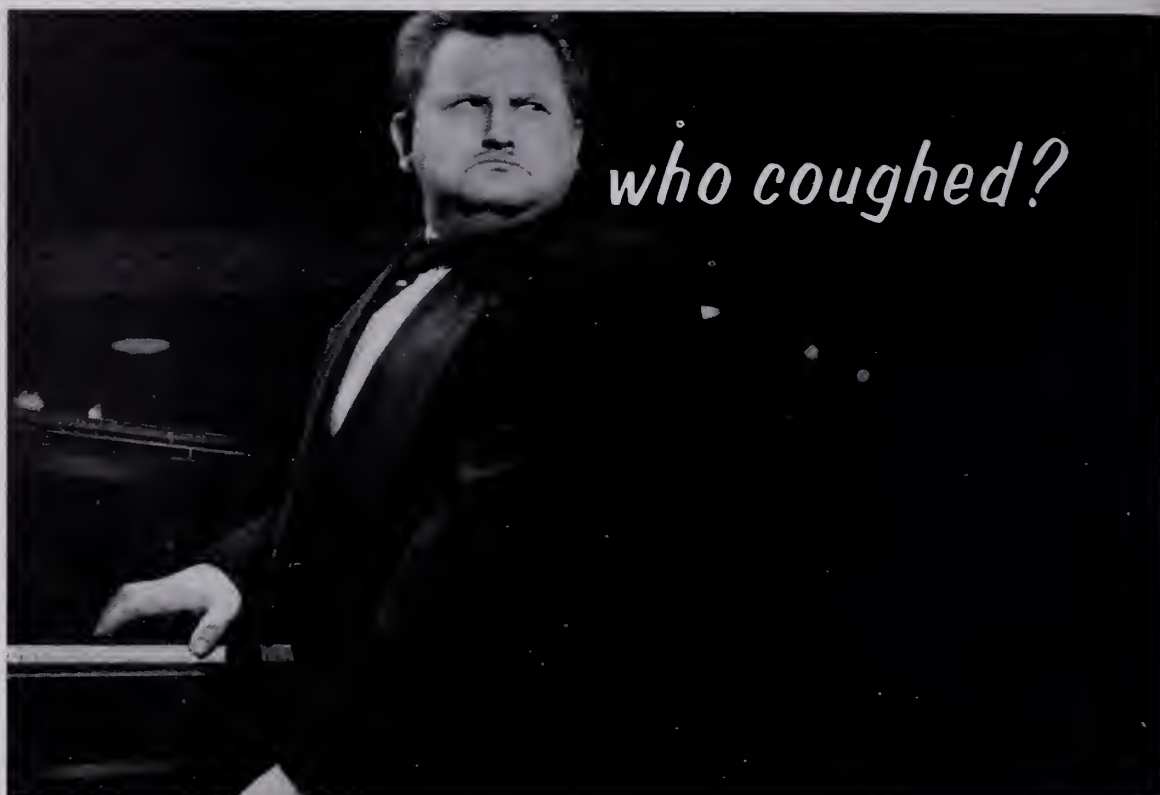
- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritis effect.
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REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, *Brit. M. J.* 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, *Lancet* 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, *Canad. M. A. J.* 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, *Brit. M. J.* 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, *Lancet* 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, *Gastroenterology* 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, *New Eng. J. M.* 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, *New Eng. J. M.* 258:219, 1958. 10. Editorial: Aspirin plain and buffered, *Brit. M. J.* 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

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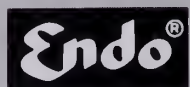
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The results of administering Delalutin before the 12th week of gestation to 82 women with habitual abortion were reported recently by Reifenstein¹ in a compilation of data supplied by 45 investigators. Every patient had experienced at least three consecutive abortions immediately preceding the treated pregnancy. More than 68% of these women were delivered successfully and uneventfully following Delalutin therapy.

Boschann,² in a study of pregnancies with threatened abortion, found that:

37% of 73 pregnancies were carried to term without progestational therapy

64% of 42 pregnancies were salvaged by progesterone

83% of 73 pregnancies were salvaged by Delalutin

Eichner,³ found that in Delalutin-treated women, fetal salvage of infants below term

weight (1000 to 2000 gm.) was significantly improved. 108 (76%) of 142 babies of birth weight survived without mothers requiring progestational therapy, while 16 (10% of 16 babies of this birth weight survived mothers receiving Delalutin therapy. A comparison study was made of a group of repeated aborters treated with Delalutin and a group with a similar history treated with bed rest and sedation.⁴ Fetal salvage with Delalutin was twice that of the control group. Delalutin was found to be "highly active", well-tolerated and effective.

According to Tyler and Olson,⁵ "The qualities of prolonged action and relative freedom from local reactions make [Delalutin] a generally more desirable therapeutic agent for intramuscular use than progesterone . . ."

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Richard Miller
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Scott Knudsen
Norwich, Conn.

References: 1. Reifenstein, E. C. Jr.: *Annals N. Y. Acad. Sc.*, 71:762 (July 30) 1958. 2. Boschann, H. W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igua, E. J., and Bukacinski, A. P.: *Am. J. Obst. & Gynec.*, 76:279, 1958. 5. Tyler, E. T., and Olson, H. J.: *J. A. M. A.*, 169:1843, 1959.

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100% HYDROPROGESTERONE CAPROATE

DELALUTIN offers these advantages over other progestational agents:

- long-acting sustained therapy
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- unusually well-tolerated, even in large doses
- fewer injections required
- low viscosity makes administration easier

DELALUTIN is also potent and safe therapy for: threatened abortion; postpartum after-amenorrhea, primary and secondary; dysfunctional uterine bleeding not associated with genital malignancy; infertility with inadequate corpus luteum function; production of secretory endometrium and desquamation during estrogen therapy; premenstrual tension; menorrhagia; cyclomastopathy, mastodynia, adenosis and chronic cystic mastitis.

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Because of its low viscosity, Delalutin may be administered with a small gauge needle (deep intragluteal injection). Complete information on administration and dosage is supplied in the package insert.

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Delalutin is available in vials of 2 and 10 cc., each containing 125 mg. of hydroxyprogesterone caproate in sesame oil, and benzyl benzoate.

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References: 1. Farah, L.; Internat. Rec. Med. 169:379 (June) 1956. 2. Smigol, J. O., et al.; J. Am. Geriatrics Soc. 7:61 (Jan.) 1959. 3. Feinberg, A. R., et al.; J. Allergy 29:358 (July) 1958. 4. Eisenberg, B. C.; J.A.M.A. 169:14 (Jan. 3) 1959. 5. Maryssael, L.; Bruxelles-méd. 38:141 (Jan. 26) 1958. 6. Pfleger, R.; Med. Klin. 53:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

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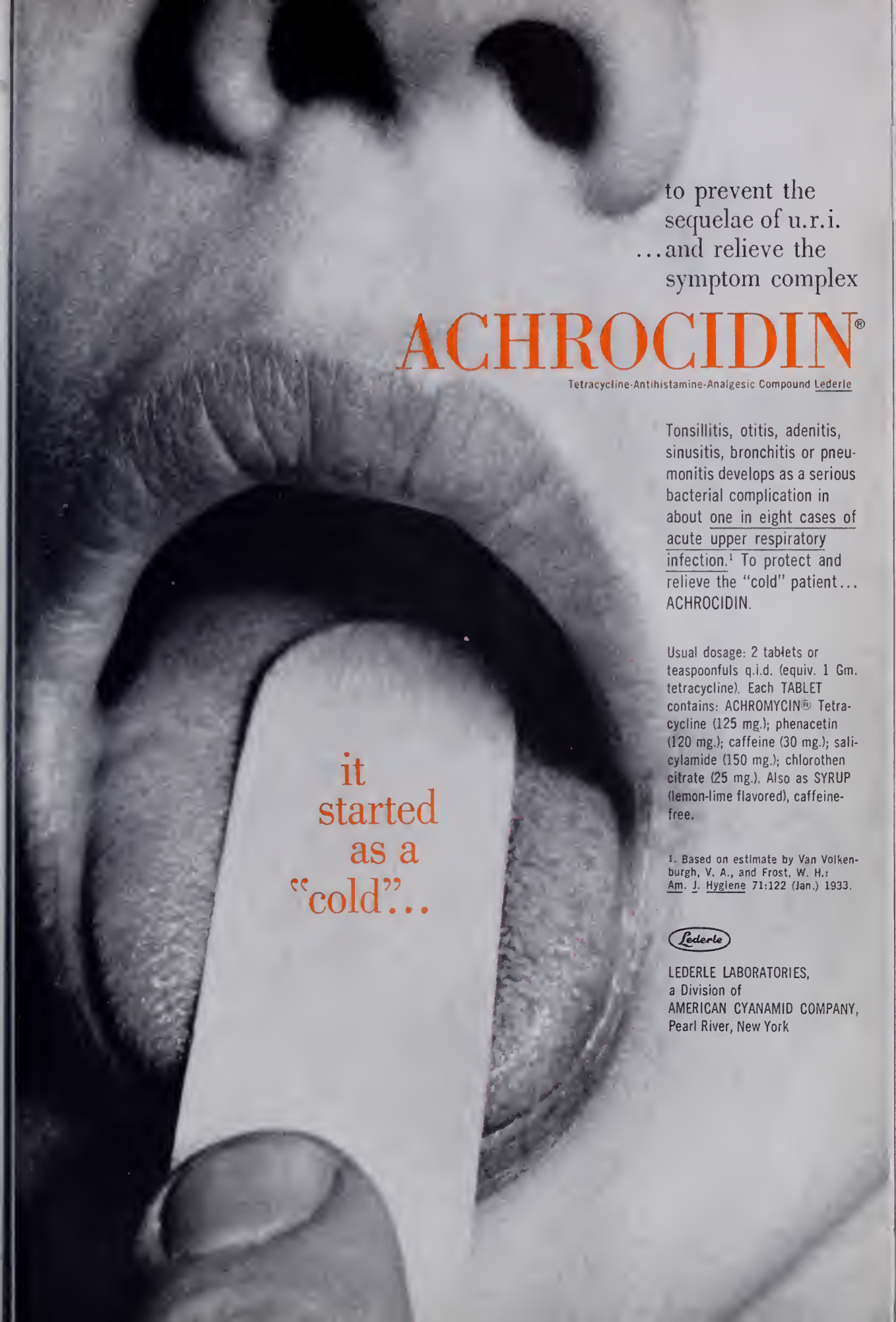
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1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933.

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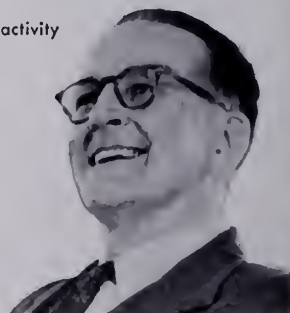
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1. Hodges, F. T.:
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Source: Refresher Article:
Biliary Tract
Diseases, M. Times
85:1081, 1957.

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bibliography: (1) Green, J. R., & Steelmon, H. F.: *Epileptic Seizures*, Baltimore, Williams & Wilkins Company, 1956, p. 136. (2) Brody, P. F.: *Pediatrics* 23:151, 1959. (3) Davidson, D. T. Jr., in Conn, H. F.: *Current Therapy* 1959, Philadelphia, W. B. Saunders Company, 1959, p. 512. (4) Smith, B., & Forster, F. M.: *Neurology* 4:137, 1954. (5) Zimmerman, F. T.: *New York J. Med.* 55:2338, 1955. (6) Lemere, F.: *Northwest Med.* 53:482, 1954. (7) Perlstein, M. A.: *Pediatr. Clin. North America* 4:1079 (Nov.) 1957. (8) Livingston, S., & Pouli, L.: *Pediatrics* 19:614, 1957. (9) Carter, C. H., & Moley, M. C.: *Neurology* 7:483, 1957. (10) Keith, H. M., & Rush, J. G.: *Proc. Staff Meet. Mayo Clin.* 33:105, 1958.



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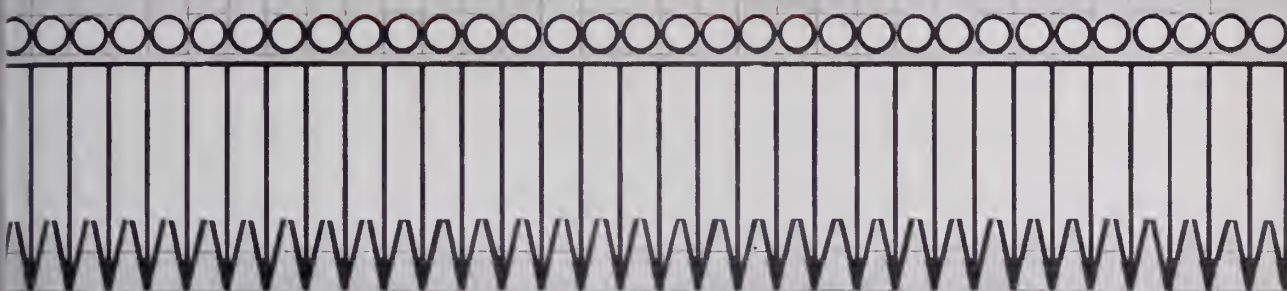
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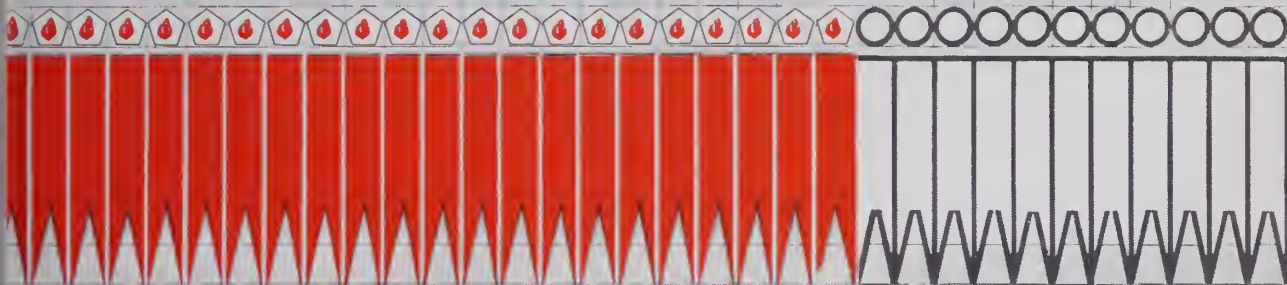
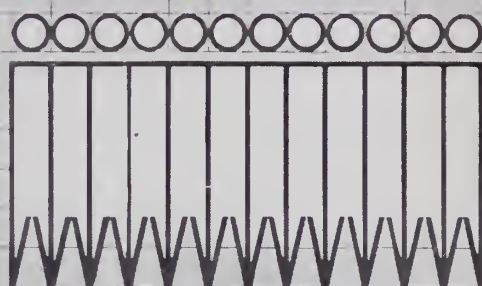
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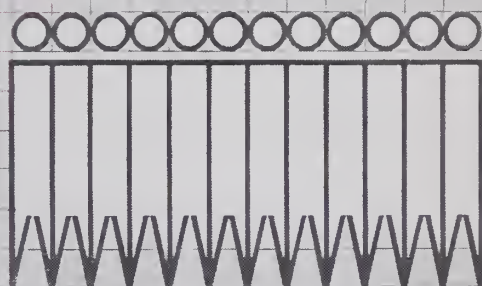
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1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

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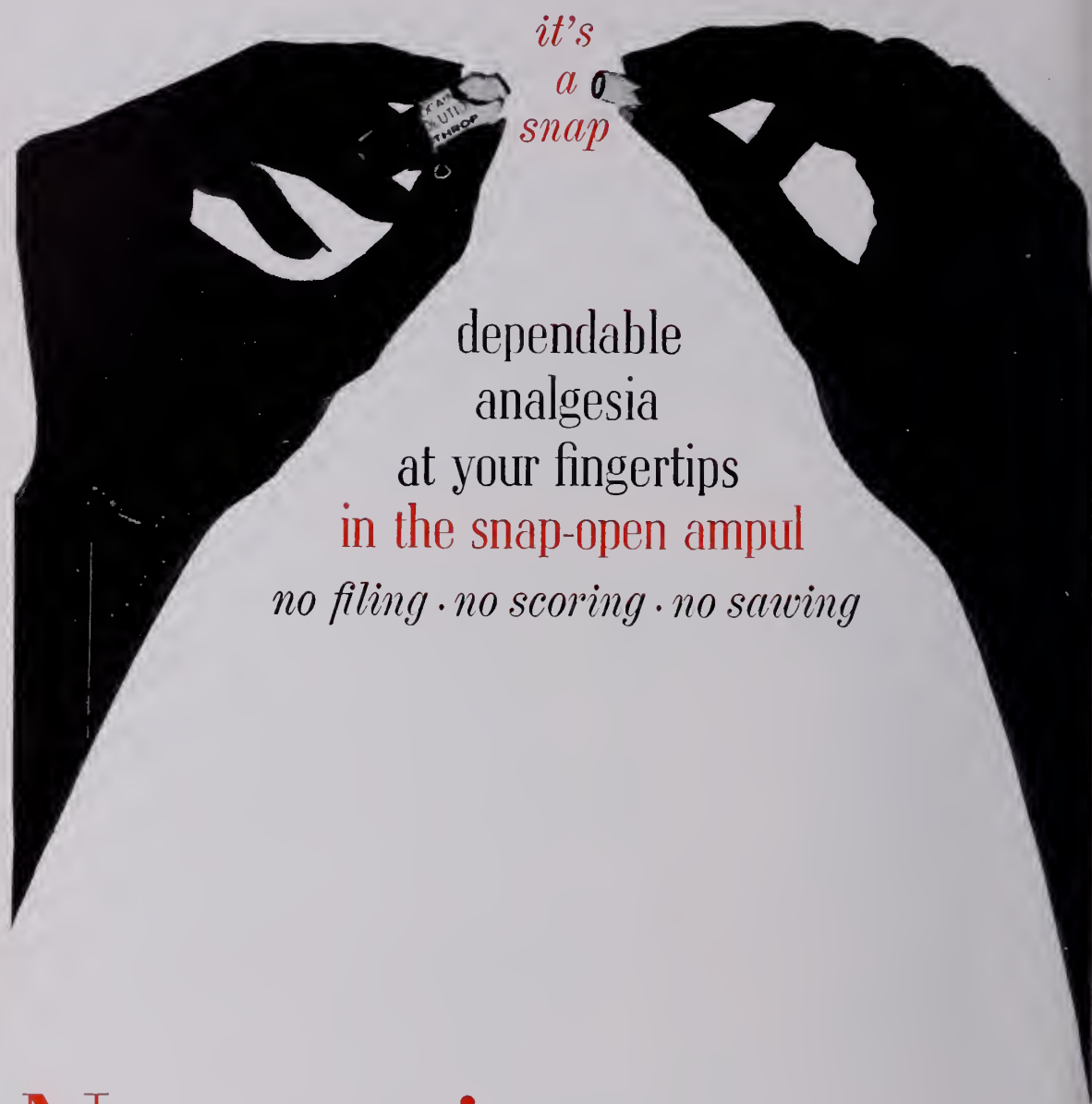
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1. Clark, G.M.: Personal Communication, 1958.

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References: 1. Farah, L.: *Internat. Rec. Med.* 169:379 (June) 1956. 2. Smigel, J. O., et al.: *J. Am. Geriatrics Soc.* 7:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: *J. Allergy* 29:358 (July) 1958. 4. Eisenberg, B. C.: *J.A.M.A.* 169:14 (Jan. 3) 1959. 5. Maryssael, L.: *Bruxelles-méd.* 33:141 (Jan. 26) 1958. 6. Pfleger, R.: *Med. Klin.* 53:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

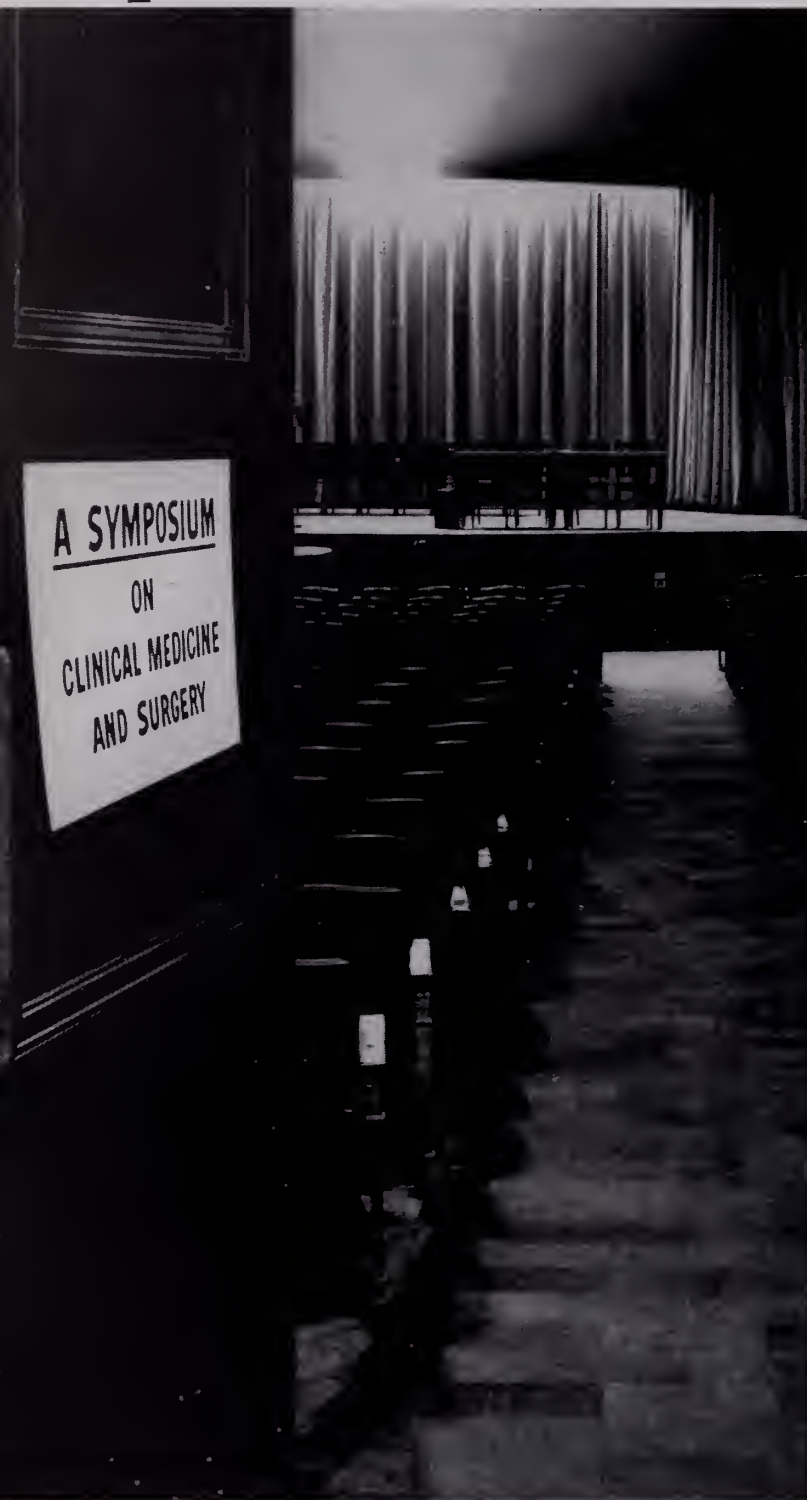
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SCHENECTADY, NEW YORK

Thurs., Nov. 12, 1959, The Mohawk Golf Club

CORPUS CHRISTI, TEXAS

Fri., Nov. 13, 1959, The Robert Driscoll Hotel

RIVERSIDE, CALIFORNIA

Sun., Nov. 15, 1959, The Mission Inn

SANTA BARBARA, CALIFORNIA

Wed., Nov. 18, 1959, The Santa Barbara Biltmore

MOLINE, ILLINOIS

Wed., Dec. 2, 1959, The LeClaire Hotel

1960 Symposia (incomplete schedule)

DENVER, COLORADO

Sun., Jan. 10, 1960, The Cosmopolitan Hotel

AUSTIN, TEXAS

Fri., Jan. 15, 1960, The Commodore Perry

POCATELLO, IDAHO

Sat., April 2, 1960, The Bannock Hotel

MOORHEAD, MINNESOTA

Sat., April 9, 1960, The Frederick Martin Hotel

SALT LAKE CITY, UTAH

Fri., April 22, 1960, Hotel Utah

ST. LOUIS, MISSOURI

Sun., May 1, 1960, Chase-Park Plaza

SANTA ROSA, CALIFORNIA

Fri., Sept. 16, 1960, The Flamingo Hotel

GREAT FALLS, MONTANA

Sat., Oct. 22, 1960, The Rainbow Hotel

CHARLESTON, WEST VIRGINIA

Sun., Oct. 30, 1960, The Daniel Boone Hotel

In cooperation with medical organizations throughout the United States, Lederle continues to offer aid in post-graduate medical education through its Symposium program. Upon completion of the schedule above, the number of Symposia presented will exceed 200 since the first meeting, sponsored by the Knoxville (Tenn.) Academy of Medicine eight years ago. Each meeting presents prominent authorities discussing important advances in clinical medicine and surgery. Activities are also planned for physicians' wives.

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More than 13,000,000 prescriptions attest that Veratrite continues to be the antihypertensive of choice for the older hypertensive patient. Veratrite can be prescribed safely and routinely for those who usually cannot tolerate more potent drugs.

Veratrite now contains cryptenamine which acts centrally to produce a gradual fall in blood pressure, yet improves circulation to vital organs, relieves dizziness and headache, and imparts a distinct sense of well-being. Furthermore, Veratrite achieves its effects with unusual safety and without annoying side effects.

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Highly soluble in acid and alkaline media...
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minimizes patient dosage confusion. At least
equivalent to 4 to 6 Gms. daily of previous
sulfonamides. Does not produce renal
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KYNEX is extremely low in toxic potential.^{2,3}
Cutaneous or other objective sensitivity
reactions are rare, as demonstrated in a large
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when the recommended dosage is used.²

Dosage: Adults, 0.5 Gm. (1 tablet) daily following an initial
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TABLETS, 0.5 Gm., Bottles of 24 and 100.

also available—KYNEX Acetyl Pediatric Suspension, cherry-
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spoonful (5 cc.). Bottles of 4 and 16 fl. oz.

1. Editorial, New England J. Med. 258:48, 1958.
2. Vinnicombe, J.: Antibiotic Med & Clin. Ther. 5:474, 1958.
3. Sheth, U. K., et al.: Ibid., p. 604, 1958.

for improved control
WHENEVER SULFAS ARE INDICATED

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Decongestant / Antihistamine

THE POTENTIATED DECONGESTANT



provides symptomatic relief of nasal congestion and rhinorrhea of allergic or infectious origin

Many patients whose symptoms are inadequately controlled by decongestants or antihistamines alone respond promptly and favorably to 'ACTIFED'.

	in each Tablet	in each tsp. Syrup
'Actidil'® brand Triprolidine Hydrochloride	2.5 mg.	1.25 mg.
'Sudafed'® brand Pseudoephedrine Hydrochloride	60 mg.	30 mg.

safe and effective for patients of all ages suffering from respiratory tract congestion

DOSAGE

	TABLETS	SYRUP (5 cc. tsp.)	
Adults and older children	1	2	} three times daily
Children 4 months to 6 years of age	½	1	
Infants through 3 months	—	½	



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Supplied: Compocillin-VK Filmtabs, 125 mg. (200,000 units), bottles of 50 and 100; 250 mg. (400,000 units), bottles of 25 and 100. Compocillin-VK Granules for Oral Solution come in 40-cc. and 80-cc. bottles. When reconstituted, each 5-cc. teaspoonful represents 125 mg. (200,000 units) of potassium penicillin V.



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Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.¹⁻¹⁰ Studies performed in conjunction with gastrectomy^{4, 5} and gastroscopy² have shown insoluble aspirin particles firmly adherent to

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CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage



Regular aspirin crystals 24 hours after being mixed into water.



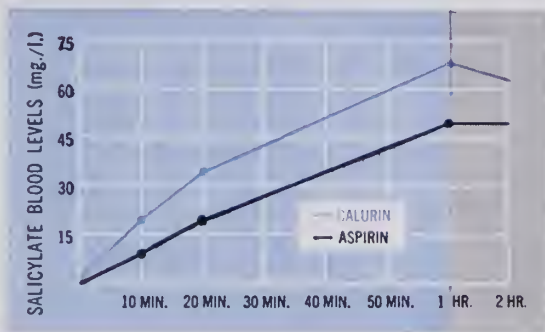
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STABLE SOLUBLE CALCIUM-ACETYLSALICYLATE-CARBAMIDE



Particle-induced ulceration — section through lesion found in gastrectomy specimen. An aspirin particle was found firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after dispersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.¹¹

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritic effect.
- 3 Sodium-free — for safer long-term therapy.
- 4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times daily; in rheumatic

fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, *Brit. M. J.* 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, *Lancet* 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, *Canad. M. A. J.* 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, *Brit. M. J.* 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, *Lancet* 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, *Gastroenterology* 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, *New Eng. J. M.* 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, *New Eng. J. M.* 258:219, 1958. 10. Editorial: Aspirin plain and buffered, *Brit. M. J.* 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

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NIAMID^{*}

the mood brightener

EFFECTIVE AND WELL TOLERATED

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NIAMID has been found to be strikingly effective and well tolerated in a broad range of depressive states including a wide variety of the milder depressive syndromes, as well as the masked depression so frequently seen in general practice. These syndromes include: depression associated with the menopause, postoperative depressive states and senile depression; depression accompanying chronic or incurable illness, such as gastrointestinal and cardiovascular disorders and inoperable cancer.

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NIAMID, in intensive clinical tests, has proved to have a high degree of safety and to be a valuable adjunct in the management of the anginal syndrome. NIAMID produces striking symptomatic improvement in angina patients—markedly reduces the pain, severity and frequency of anginal episodes, reduces nitroglycerin requirements, and provides an increased sense of well-being. Since dramatic improvement is seen in some patients, it is wise to advise the patient against overexertion—his disorder still holds potential dangers despite relief of symptoms.

DOSAGE: Start with 75 mg. daily in single or divided doses. After a week or more, adjust the dosage, depending upon patient response, in steps of one or one-half 25 mg. tablet. Once improvement is seen, gradually reduce dosage to the maintenance level. Many patients respond to NIAMID within a few days, others in 7 to 14 days. A few patients may require as much as 200 mg. daily over a longer period of time before significant improvement is seen.

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*whenever there is inflammation,
swelling, pain*

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as in acute
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Dramatic reduction of pain is often the first sign of improvement: swelling and redness rapidly diminish. Drugs and natural regenerative factors readily penetrate the inflammatory barrier to effect total remission faster... in trauma or infection.

VARIDASE Buccal Tablets contain:
10,000 Units Streptokinase, 2,500 Units Streptodornase.
Supplied: Boxes of 24 and 100 tablets

*Peterman, R. A.: Clinical report cited with permission.



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Synonyms for Pain Relief...

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Acetophenetidin gr. 2½
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...providing the desired
gradation of potencies
for relief of varying
intensities of pain

IN

simple headache
rheumatic conditions
arthralgias
myalgias
common cold
toothache
earache
dysmenorrhea
neuralgia
minor trauma
tension headache
premenstrual tension
minor surgery
post-partum pain
trauma
organic disease
neoplasm
muscle spasm
colic
migraine
musculo-skeletal pains
postdental surgery
post-partum involution
fractures
synovitis, bursitis

relief of pain
of all degrees of
severity up to
that which
requires morphine

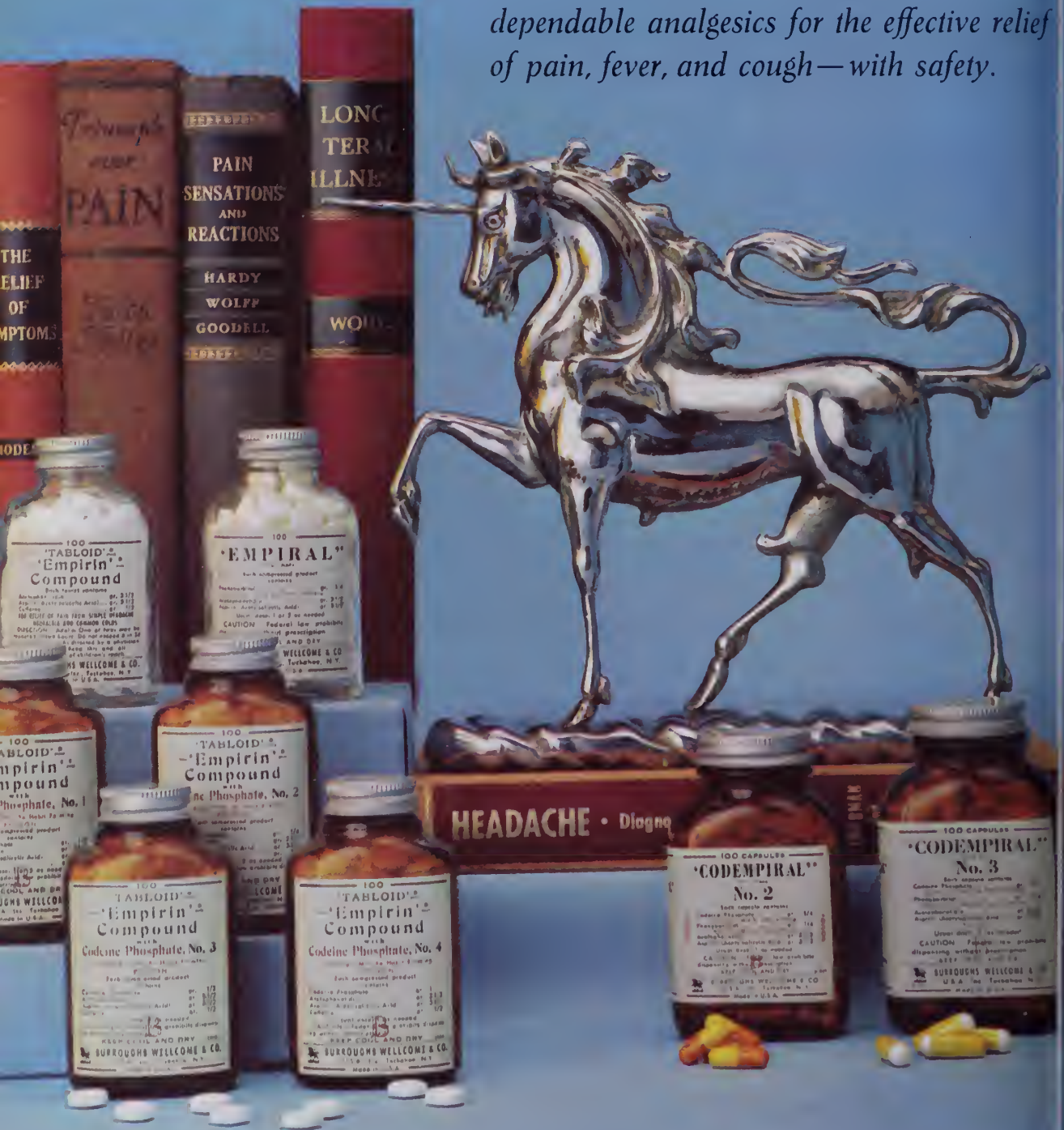
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fevers
dry,
unproductive coughs



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Very useful in...

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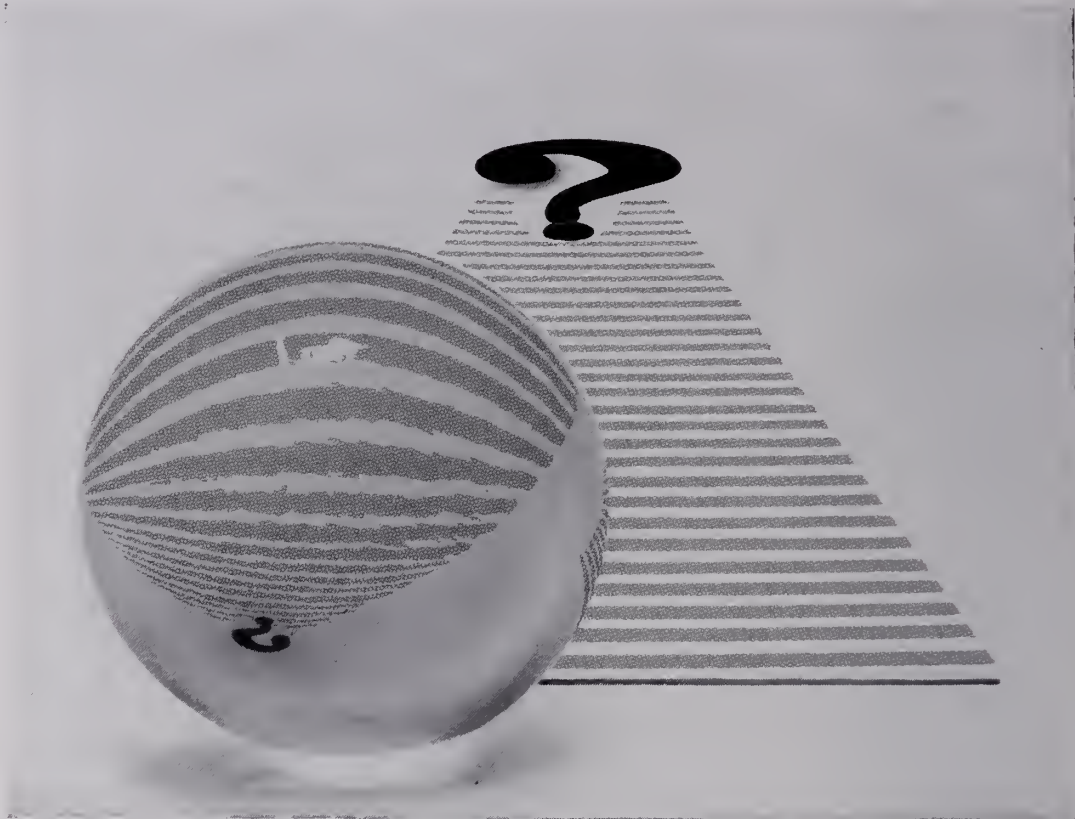
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what lurks beyond the broad spectrum?

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But beyond the spectrum lurk pathogenic fungi. Aggressive infections often require intensive broad spectrum antibiotic attack. It becomes more apparent every day that fungal superinfections may occur during or following a course of such therapy.^{1,2} Long term debilitating disease, diabetes, pregnancy, corticosteroid therapy, and other causes may predispose to such fungal infections^{3,4} as iatrogenic moniliasis. These facts complicate the administration of antibiotics.

Mysteclin-V controls both — infection and superinfection. Mysteclin-V makes a telling assault on bacterial infections and, in addition, prevents the potentially dangerous monilial overgrowth.^{5,6} Mysteclin-V is a combination of the phosphate complex of tetracycline — for reliable control of most infections encountered in daily practice — and Mycostatin, the first safe antifungal antibiotic.

Case history after case history marked "recovered" provides clinical evidence of the special merit of this advance in specially designed antibiotics. When you prescribe Mysteclin-V, you provide "broad therapy" with extra protection that extends beyond the spectrum of ordinary antibiotics.

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Supplied:	Tetracycline Phosphate Complex equiv.	Mycostatin units
	Tetracycline HCl (mg.)	
Mysteclin-V Capsules (per capsule)	250	250,000
Mysteclin-V Half-Strength Capsules (per capsule)	125	125,000
Mysteclin-V Suspension (per 5 cc.)	125	125,000
Mysteclin-V Pediatric Drops (per cc. — 20 drops)	100	100,000

References: 1. Dowling, H. F.: Postgrad. Med. 23:504 (June) 1958. 2. Gimble, A. I.; Shea, J. G., and Katz, S.: Antibiotics Annual 1955-1956. New York, Medical Encyclopedia Inc., 1956, p. 676. 3. Long, P. H., in Kneeland, Y., Jr., and Worris, S. B.: Bull. New York Acad. Med. 33:552 (Aug.) 1957. 4. Rein, C. R.; Lewis, L. A., and Dick, L. A.: Antibiotic Med. & Clin. Ther. 4:771 (Dec.) 1957. 5. Stone, M. L., and Mersheimer, W. L.: Antibiotics Annual 1955-1956, New York, Medical Encyclopedia Inc., 1956, p. 862. 6. Campbell, E. A.; Prigot, A., and Dorsey, O. M.: Antibiotic Med. & Clin. Ther. 4:817 (Dec.) 1957. 7. Chamberlain, C.; Burros, H. M., and Borromeo, V.: Antibiotic Med. & Clin. Ther. 5:521 (Aug.) 1958. 8. From, P., and All, J. H.: Antibiotic Med. & Clin. Ther. 5:639 (Nov.) 1958.

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Squibb Quality —
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Fiber of skeletal muscle in spasm

Fiber of skeletal muscle relaxed (photomicrographs)

CLINICALLY
PROVEN
—prolonged
relaxation
of acute
skeletal
muscle
spasm



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TABLETS

Summary of six published clinical studies:
**ROBAXIN BENEFICIAL IN 92.4% OF
SKELETAL MUSCLE SPASM CASES**

	NO. PATIENTS	RESPONSE			
		"marked"	moderate	slight	none
Carpenter ¹	33	26	6	1	—
Forsyth ²	58	"pronounced"	20	—	1
		37			
Lewis ³	38	"good"	6	—	7
		25			
O'Doherty & Shields ⁴	17	"excellent"	2	1	0
		14			
Park ⁵	30	"significant"	—	2	1
		27			
Plumb ⁶	60	"gratifying"	—	—	5
		55			
TOTALS	236	184 (78.0%)	34 (14.4%)	4	14

- Highly potent—and long acting.^{1,2,3}
- Relatively free of adverse side effects.^{1,2,3,5,6}
- In ordinary dosage, does not reduce muscle strength or reflex activity.¹

REFERENCES: 1. Carpenter, E. B.: Southern M. J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Lewis, W. B.: California Med. 90:26, 1959. 4. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 5. Park, H. W.: J.A.M.A. 167:168, 1958. 6. Plumb, C. S.: Journal-Lancet 78:531, 1958.

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During the past year, Kent sales increased by 20-billion cigarettes—the greatest gain in popularity ever recorded by any filter cigarette in any year.

Undoubtedly much of the credit for this important rise in sales must go to Kent's exclusive "MICRONITE" Filter. This extraordinary new filter was constructed to take into account new principles of filtration which were dictated by the basic discoveries of a major research foundation, working under Lorillard sponsorship.

The foundation determined that the average puff of cigarette smoke contained over 12 billion semi-solid particles. Additional research revealed that inhaled smoke from ordinary cigarettes has a predominant proportion of particles, from 0.1 to 1 micron in diameter, average 0.6 micron.

Ordinary filter fibers are so large that they create spaces through

which the small semi-solid smoke particle can easily pass. However, in the exclusive Kent filter, the fibers are mechanically manipulated in such a manner as to create extremely tortuous passageways for the smoke. In this maze-like network of super-fine fibers the smoke particle has much less chance to slip through the filter.

Thus, Lorillard research created a filter which reduced tars and nicotine in the "inhaled" smoke to the lowest level among the largest selling brands. As smokers learned about the "MICRONITE" Filter, they changed to Kent. During the past year, for instance, more smokers changed to Kent than to any other cigarette in America.



If you would like for your own use the booklet, "The Story of Kent," write to:
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Triamcinolone Diacetate LEDERLE

for
intra-articular and intrasynovial
injection

An anatomical illustration of a knee joint in a sagittal view. The joint space is highlighted with a red outline. A syringe is shown injecting a substance into the joint space. The bones of the knee are depicted in a light gray color, and the surrounding soft tissue is in a darker gray.

for longer and more pronounced anti-inflammatory action in the shortest time

- when systemic therapy is contraindicated • when systemic corticosteroids produce serious side effects
- to secure quick relief in one or two joints • for use in conjunction with orthopedic procedures

Indications: rheumatoid arthritis; osteoarthritis; bursitis; peritendinitis; ganglion; intermittent hydroarthrosis; epicondylitis and related conditions.

ARISTOCORT Parenteral contains: 25 mg. per cc. of ARISTOCORT[®] Triamcinolone Diacetate micronized; polysorbate 80 U.S.P. 0.10%; benzyl alcohol 0.95%; benzalkonium chloride 0.01%; sorbitol solution N.F. 84.83%, and water for injection q.s. 100%.

All precautions required for intra-articular and intrasynovial administration of other corticosteroids should also be observed with ARISTOCORT Parenteral.

Complete information on dosage and administration is included in the package circular.

Supply: Vials of 5 cc. (25 mg. per cc.)

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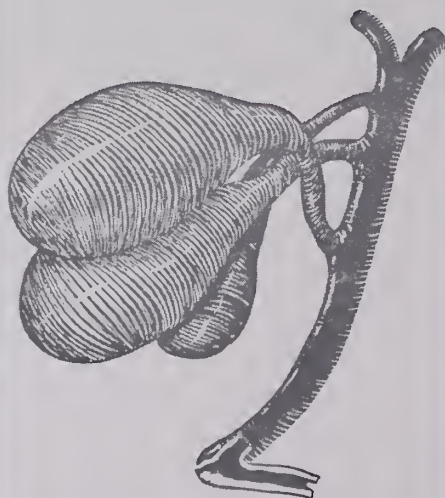
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Source: Skilboe, B.: Am. J. Clin. Path. 30:252, 1958.



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"effective" hydrocholeresis...

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(dehydrocholic acid, AMES)

"...dehydrocholic acid...does considerably increase the volume output of a bile of relatively high water content and low viscosity. This drug is therefore a good 'flusher,' and is effectively used in treating both the chronic unoperated patient and the patient who has a T-tube drainage of an infected common bile duct."¹

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plus reliable spasmolysis

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"...DECHOLIN/Belladonna in a dosage of one tablet t.i.d. for a period of two to three months may prove helpful in relieving postoperative symptoms, aiding the digestion, and facilitating elimination."²

- (1) Beckman, H.: Drugs: Their Nature, Action and Use, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) Biliary Tract Diseases, M. Times 85:1081, 1957.

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2 NEW FORMS OF CORICIDIN

**relieve sinusitis
colds • allergic rhinitis**



decongestant • antihistaminic
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CORICIDIN "D"

Decongestant Tablets

combine dependable
CORICIDIN benefits with specific
action of phenylephrine
to provide rapid prolonged relief
of congested respiratory passages

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decongestant •
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offers prompt topical symptomatic
relief of congested nasal mucosa and
controls excessive nasal drainage
without rebound effects

Each CORICIDIN "D" tablet contains 2 mg. CHLOR-TRIMETON® Maleate, 0.23 Gm. aspirin, 0.16 Gm. phenacetin,
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hydrochloride and 0.05 mg. gramicidin squeeze-bottles of 20 cc.

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recurrent
infections

ILOSONE® WORKS to assure a more decisive response

When the infection keeps coming back, it may well be that a more decisive antibiotic attack is indicated. In such cases, Ilosone consistently provides a prompt, high level of antibacterial activity in the patient's serum. Ilosone is bactericidal against both streptococci and pneumococci and has been reported particularly effective against staphylococcus infections in the most recent clinical investigation.¹

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1. J.A.M.A., 170:184 (May 9), 1959.

Ilosone® (propionyl erythromycin ester, Lilly)

DELAWARE STATE MEDICAL JOURNAL

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VOLUME 31

OCTOBER, 1959

NUMBER 10



Delaware Academy of Medicine

1925 Lovering Avenue, Wilmington, Delaware



Bank of Delaware — The original building Market and Hanover Streets, September 15, 1883. Reproduction of a painting by John Brill McCoy.

Brick b

1930

WILLIAM H. KRAEMER, M.D.

Thirty years ago, the Delaware Academy of Medicine was just a dream in the minds of those few individuals who later became its founders. No small part of their early success was due to the one hundred and four contributors who joined them in generous gifts, making the initial step possible. The vision, fortitude and untiring faith evidenced by this original group in furthering their project, literally and figuratively built the Academy of today—brick by brick.

It was born of a need. Historically, the State of Delaware possessed a rich medical heritage. One hundred seventy years ago, through an act of the General Assembly, the Medical Society of Delaware was incorporated on February 3, 1789, with the original title of "President and Fellows of the Medical Society of Delaware". Although it has the honor of being the second oldest medical society in the United States, never through all these many years, had any satisfactory center been made available as

a meeting place for Delaware's various medical and dental societies. Neither had a medical library ever been established. For any reference work, physicians found it necessary to go to the libraries in Philadelphia, Baltimore or elsewhere.

The first meeting of the founders was held on December 12, 1929, in the office of Dr. Lewis B. Flinn, who later became the first president of the Academy. Frequent meetings followed which were devoted primarily to finding a suitable site for the location of permanent quarters and plans for raising the necessary funds. The depression was rumbling at this time and tense moments came when there were doubts as to whether the project could weather this major economic disaster.

On February 19, 1930, however, the future Delaware Academy of Medicine was duly incorporated under the laws of the State as a non-profit corporation, organized for the sole purpose of fostering interest



The Delaware Academy of Medicine as it stands today, Albert Kruse, Wilmington, Delaware, was the architect for the new addition.

among its members in medical, scientific, literary and educational activities and rendering service without recompense toward these ends in the State of Delaware. The Academy was on its way. The founders who had successfully guided the course of the Academy to this point appear on page 303.

About this time, by a happy coincidence, the old National Bank of Delaware building—on the corner of Sixth and Market Streets, in Wilmington was about to be demolished, having outgrown its usefulness as a home for the bank. Through the efforts of the late Mrs. Henry B. Thompson and her interest in the Society for the Preservation of Colonial Buildings, an organized movement was started to preserve this fine example of federal architecture. It had been built in 1815-1816 and housed the first bank in the State of Delaware—the fourth oldest bank in the country. With this distinguished background, the structure was ideal material for the future home of the Delaware Academy of Medicine.

A campaign was carried on and \$36,000 was raised as a nucleus to finance the removal of the building, its restoration and a plot of ground for a new location.

The present site of the Academy on the Brandywine Park Drive where Lovering Avenue and Union Street meet, was purchased from Joseph Bancroft and Sons Company. This property can be traced back through the Loverings and the Shallcrosses to Thomas Gilpin, Jr., who, “on the 6th day of the 6th month in the 6th year of the reign of our Sovereign, George the Third over Great Britain, etc., and in the year of our Lord 1766”, (June 6, 1766) received the land by virtue of a patent from the commissioner of property under the Honorable Thomas Penn and Richard Penn, proprietors of the Counties of New Castle, Kent and Sussex on Delaware and the Province of Pennsylvania. Thomas and Richard Penn were the sons of William Penn and his second wife, Hannah Callowhill. The tract patented to Gilpin was of 180 acres and extended southerly from the

Brandywine Creek and northerly from Rattlesnake Run.

With the exception of a few alterations for modern use, the building was erected on this site, exactly as it stood in 1816. Charles C. Cornelius, former Curator of the American Wing of the Metropolitan Museum of Art, was engaged as project architect. The English brick, mellowed to a soft tone through the years, was removed, brick by brick and reassembled at this new location. The original hand hewn rafters joined with wooden pegs, the staircase, floors, trim and the original railings surrounding the building were carefully preserved.

On June 1, 1932, a formal dedication ceremony was held and the cornerstone laid by Mayor Frank C. Sparks. The deed to the property, presented by Mrs. Henry B. Thompson to the president of the Academy, was placed in a copper box together with a roster of the Delaware State Medical and Dental Societies, a copy of the original resolutions of the Delaware Academy of Medicine, copies of medical journals, currency of that date and various clippings telling of plans for the cornerstone laying. The ceremonies were opened with an invocation by the Reverend Dr. Charles F. Penniman, then Rector of Trinity Episcopal Parish, and closed with a benediction by the Reverend J. Francis Tucker, at that time Pastor of St. Anthony's Church. Dr. William H. Kraemer presided.

The Academy found itself at this point in debt for \$12,000 for the reconstruction of the building. Because the officers of the Academy were in no position to assume this financial burden, a mortgage was taken on the property and a group—formed by the officers of the Academy and interested citizens—annually raised among themselves enough money to pay the interest. Had it not been for the people who raised the money from 1932-1935 to pay the interest on the \$12,000 owed to the Wilmington Trust Company, the property might well have slipped out of the hands of the Delaware Academy of Medicine. For this reason, the names comprising this group which

saved the project at a critical time are recorded here Mr. Daniel F. Shields, Jr., Dr. Lewis B. Flinn, Mrs. Ernest duPont, Dr. Victor D. Washburn, Allen L. Lauritsen Company, Mr. Thomas Donaldson, Dr. Charles P. White, Dr. Charles L. Reese, Dr. Frank L. Grier, Mr. James T. Chandler, Sr., Dr. William H. Kraemer.

After this debt was paid about October 4, 1935, the deed to the property—clear of all encumbrances—was signed over to the Academy. From that date, the old Delaware Bank Building became the property of the Delaware Academy of Medicine.

In 1933, the library was organized with a nucleus approximately two thousand volumes on medicine, surgery, dentistry and allied subjects. The library facilities have grown tremendously in volume in the past years. The Reading Room is inviting and maintains an impressive display of medical journals and periodicals related to medicine from all over the world.

Mrs. Ava Taylor Watson, the first librarian of the Academy, spent great thought and energy in its behalf. Her efforts were constantly directed toward facilitating use of the library to carry forward the purposes and functions of the Academy. Her untimely and sudden death was a great loss. Mrs. Edward Mendenhall very kindly stepped into the breach and acted as librarian for a period of three years. After the onset of World War II which, incidentally, took into military service over 35 per cent of the Academy's membership, Mrs. Gerald Beatty acted as part-time librarian from 1942-46—a period of four years. During the war years her aid made it possible for the institution to weather the difficulties of this period. A short time after the war, the present librarian, Dr. Eugene Syrovatka, graduate of Charles University, Prague, with a degree of Doctor of Laws, was installed. His considerable banking, legal and political experience in Prague, various European countries and Mexico had finally brought him to this country. Our Government thought well enough of him to have a special bill passed

Founders



Julian
Adair, M.D.



Olin S.
Allen, M.D.



Joseph M.
Barsky, Sr., M.D.



W. Edwin
Bird, M.D.



J. Draper
Brown, D.D.S.



Lewis B.
Flinn, M.D.



George W. K.
Forrest, M.D.



William H.
Kraemer, M.D.



William O.
LaMotte, Sr., M.D.



Emil R.
Mayerberg, M.D.



John H.
Mullin, M.D.



W. Morris
Pierson, M.D.



James G.
Spackman, M.D.



Albert J.
Strikol, M.D.



Charles E.
Wagner, M.D.



Victor D.
Washburn, M.D.

The reconstructed building the old Bank of Delaware building after it was moved to Lovering Avenue and reconstructed — brick by brick.



in Congress granting him political asylum here, with the opportunity to acquire citizenship. His service and constructive suggestions have been very valuable to the Academy.

The history of the Academy of Medicine would be incomplete without mentioning the late Walter Jackson. From the very beginning of this organization he took complete charge of the building in the capacity of janitor, carpenter, plumber and superintendent and his services and personality were greatly appreciated by every member of the Academy.

Thus the Academy became the meeting place for state and county medical groups and societies; it stimulated education through its library, forums, panel discussions and symposiums, held in the auditorium. With professional and lay help, education was fostered through close cooperation with health commissions and voluntary organizations such as the American Heart Association, the American Cancer Society and similar groups.

At the meetings held from time to time in the auditorium, authorities were invited

to present the latest developments in laboratory and clinical research to the assembled professions. For several years, monthly clinical—pathological conferences were given at the Academy by the pathologists of the Philadelphia General Hospital and others.

With a constantly increasing membership—which totals 312 members today—and an ever-increasing number of requests for services, it became apparent that an addition to the original building was essential. Consequently a building campaign was launched which brought the Academy contributions totalling more than \$320,000 with which to plan its new facilities. This sum was made possible by 230 professional donors, 6 professional organizations and 212 lay contributors.

Plans were completed and the new addition, with added touches of refurbishing and landscaping, went into process. The auditorium has been enlarged to twice its original size. A conference room, lounge and additional office space for the Academy itself are some of the features. The basement has been equipped with kitchens and a dining room. Suitable office space has

been provided for the Medical Society of Delaware, the New Castle County Medical Society, the Delaware Diabetes Society, the Delaware Dental Society, and the American Cancer Society in the new Academy addition.

On the 14th of October, a formal dedication took place at 1925 Lovering Avenue to mark another milestone in the progress of the Academy. Guests were by invitation only and included members of the Academy of Medicine, their wives and all lay contributors including those participating in the recent campaign for the building fund. The program opened at 8:15 p.m. with invocation services by Dr. Charles F. Penniman, former rector of Trinity Episcopal Church, Wilmington. The opening remarks were given by John A. Perkins, Ph.D. Charles E. Wagner, M.D., president of the Academy, then introduced the distinguished guests who were present. This was followed by greetings from the president of the American Medical Association, Louis M. Orr, M.D. and greetings from the American Dental Association by the president, Paul H. Jeserich, DD.S. Joseph W. Ferree, M.D. from Cooperstown, New York, spoke on "Treatment of Radiation Casualty." The well filled, spacious auditorium more than justified the loyal service that has been rendered by both professional and non-professional Delawareans in their sup-

port of the expansion of the Delaware Academy of Medicine.

In the reception room adjoining the auditorium, bronze tablets are mounted over the fireplace, dedicated to the memory of physicians now deceased. These commemorative plaques have been given by devoted friends and patients and the generous contributions for these are applied to the endowment fund.

A second panel was erected in time for the formal opening of the new addition. It is expected that new panels will be added from time to time to carry on the tradition.

Reviewing the history of the Academy to the present day, it is impressive to note that the faithful and painstaking efforts of the individual members, including the special contributions by some and the many generous gifts from interested friends, have made a reality of the dream—a Delaware Academy of Medicine.

Proud of its heritage, its growth and its aims the Academy has rededicated itself to the practice of better medicine by furthering medical, scientific, and educational activities.

This project must endear itself to the public, for this building—this Academy of Medicine—belongs to the people of the State of Delaware.

Presidents of the Delaware Academy of Medicine

1930 - 1959

DR. LEWIS B. FLINN, 1930 - 1941
DR. WILLIAM H. KRAEMER, 1941 - 1945
DR. EDGAR R. MILLER, 1946 - 1947
DR. GERALD A. BEATTY, 1948 - 1949
DR. BARTHOLOMEW M. ALLEN, 1950 - Sept., 1951
DR. WILLIAM M. PIERSON, Sept., 1951 - Jan., 1952
DR. LEMUEL C. MCGEE, 1952 - 1953
DR. VICTOR D. WASHBURN, 1954 - 1955
DR. ALFRED R. SHANDS, JR., 1956 - 1957
DR. CHARLES E. WAGNER, 1958 - 1959



Figure 1

Lateral view of skull showing destruction of the right frontal bone.

PRIMARY RETICULUM OF THE SKULL

JOHN S. PIENDAK, M.D.*

JOHN W. ALDER, JR., M.D.**

REPORT OF A CASE

HISTORICAL REVIEW

Until 1939, primary reticulum cell sarcoma of bone was considered to be a metastatic lesion. In 1928, Oberling suggested that this lesion had its origin in one of the marrow elements. It was not until 1939 that Parker and Jackson¹ reported a series of 17 cases of primary reticulum cell sarcoma of bone. In the same year Ewing² published a review of the Classification of the Registry of Bone Sarcoma and primary reticulum cell sarcoma of bone was recognized as an entity. Since 1939 there have been several large series reported. Sherman and Snyder (17 cases)³, Coley, Higginbotham and Goresbeck⁴ (37 cases) and McCormack, Ivins, Dahlin and Johnson⁵ (25 cases) are the larger contributors. In none of these series was there primary involvement of the skull. Strange and deLorimer⁶

in 1954 reported 3 cases of primary reticulum cell sarcoma involving the skull.

CASE REPORT

The patient was a 33 year old white married man who presented himself in October of 1950 with the chief complaint of diplopia and pain, of several weeks' duration, in the left eye. For the past three years, he had noticed a mass in the right frontal region which was slowly enlarging to include the left supraorbital area. He bumped his right frontal region with his son's head about 3-4 weeks prior to his first admission. A clinical diagnosis of osteogenic sarcoma was made at an ophthalmologic hospital in Philadelphia. He was admitted to the Delaware Hospital for surgery.

Physical examination revealed a well-nourished and a well-developed adult. BP 130/90, T. 99.0, P 80. The physical findings were limited to the head where a soft tissue tumefaction was noted in the left supraorbital area.

Laboratory findings: hemoglobin 15

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**Attending Chief, Dept. of Radiology, The Delaware Hospital, Wilmington, Delaware.

COMA

H METASTASIS

Primary reticulum cell sarcoma of skull is a rare, radiosensitive neoplasm. When it is found, it presents a challenge to the radiologist, initially as a diagnostic problem and then as a problem in radiotherapy. The authors present a case report of an individual who has lived nine productive years after diagnosis of the initial lesion in the skull.

gm 100cc. WBC 9400 per cu. mm. Differential: poly 59, bands 10, lymphs 25, monocytes 4, eosinophiles 2. Total plasma protein 6.6 grams/100cc. Blood cholesterol was 198 mgm. per 100 cc. Spinal fluid chemistry, serology and cytology were within normal limits.

X-rays revealed a 4x5 cm. irregular lytic lesion in the right frontal area. A bone survey including chest, long bones and pelvis revealed no destructive changes.

Course: Operative findings revealed the lesion extending through both tables of the skull down to the dura. The lesion was incompletely curetted. The histologic diagnosis was primary reticulum cell sarcoma of the skull. From November 21, 1950 to January 15, 1951 the patient received 3,000r in air through a medium cone, 7 cm. in diameter and another 3,000r in air to the left lateral frontal area through a small cone, 3 cm. in diameter. The factors were 200 KV, 15 MA, Filter 0.5 mm. of Cu and 0.5 mm. of Al at a 50 cm.



Figure 2

PA projection of skull showing the initial lytic lesion involving right frontal bone.

The patient remained asymptomatic until August, 1953 when he reappeared complaining of pain and stiffness in the left shoulder for a duration of six weeks. An X-ray of the left shoulder showed a lytic lesion of the left scapula and left ninth rib. A bone survey revealed lesions of the right seventh rib, right ischium, both upper femurs and upper right humerus. He was hospitalized at another institution where physical examination revealed only a 5 x 4 cm. operative defect in the right frontal area. The laboratory findings were not significantly altered from his initial admission. In addition, his urine was negative for Bence-Jones protein. A biopsy of the left scapula showed bony tissue infiltrated by large rounded atypical cells having a fairly dense reticulum network. The diagnosis was "consistent with a reticulum cell sarcoma".

This time the patient was again treated with radiotherapy using the following fac-

tors: 200 KV, 25 MA, Filter 0.5 mm. Cu, HVL 1 mm. Cu, at a distance of 50 cm. The port sizes varied from 12 x 6 cm. to 16 x 14 cm. depending on size of the lesion. Six areas received 2,400r in air over a two week period and two areas were given 1,500r in air over a one week period. The roentgenotherapy stopped the progression of the disease in these areas and healing was noted with "scar" bone gradually replacing the lytic areas. The pain and stiffness disap-

peared after the roentgenotherapy to the affected areas. His daily activities were resumed without difficulty. Both physical and roentgenographic examinations are made at regular intervals and no new areas of the disease have been uncovered. The treated lesions have continued to regress and "scar" bone is noted in several areas.

This patient has lived nine useful and relatively asymptomatic years since the diagnosis of his disease.

Figure 3

Involvement of left scapula by lytic, expansile lesion, three years after initial involvement of the skull.



Figure 4

Left scapula and shows reversal of the lytic expansile process and healing with evidence of scar bone after course of radiotherapy.



BEFORE

Figure 5

Involvement of both proximal femurs and right ischium with reticulum cell sarcoma prior to radiotherapy.

AFTER

Figure 6

Note the sclerotic "scar" bone replacing the lytic areas after radiotherapy.



COMMENT

Primary reticulum cell sarcoma of bone is a radiosensitive lesion and is locally curable. It differs from reticulum cell sarcoma of lymph nodes in that it has a tendency to unifocal origin and this provides the basis for a more favorable prognosis. Local tumor sterilization can be achieved with minimal tumor doses of 2,000r administered with a medium volt roentgenotherapy unit. If metastases appear, the disease process can be held in check with roentgenotherapy so that the individual can enjoy a useful ex-

istence. If the disease is left untreated, it pursues the familiar relentless and ravaging course leading to death of the host.

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LYMPHOID POLYPS (Benign Lymphoma)

OF THE RECTUM AND ANUS

PATRICK F. ASHLEY, M.D.*

CALEB SMITH, M.D.*

The lymphoid polyp or benign lymphoma is a polypoid, usually solitary, lesion of the lower rectum and anus composed of lymphoid follicles which are limited to the mucosa and submucosa. Although some writers regard the lesion as uncommon, it is frequently discovered as an incidental finding during the more routine rectal examinations now being performed for earlier cancer detection. The chief importance of the lesion lies in the recognition of its benign characteristics in spite of histological features simulating the malignant lymphomas. Thus, an awareness of its existence and nature is necessary for both pathologist and surgeon in order to avoid over-diagnosis and consequent overtreatment. It is the purpose of this article to report three cases and to present the salient features of the lesion.

REPORT OF CASES

CASE 1. A 36 year old woman during routine physical examination was found to have three polypoid tumors, each measur-

ing approximately 1.0 cm. in diameter and situated in the rectum just above the internal hemorrhoidal area. All the tumors were excised.

CASE 2. A 24 year old woman complained of constipation, pain in the rectum and episodes of rectal bleeding over a three-month period. Rectal examination revealed hemorrhoids and a polypoid tumor 1.0 cm. in diameter above the internal hemorrhoids. Hemorrhoidectomy and excision of the polypoid tumor were performed.

CASE 3. A 41 year old woman complained of two episodes of rectal bleeding and pain. Rectal examination revealed hemorrhoids and a polypoid lesion 1.5 cm. in diameter above the internal hemorrhoid area. A hemorrhoidectomy, anoplasty, and excision of the polypoid tumor were done.

ETIOLOGY

The etiology of the lesion is not yet settled. Whereas some maintain it is a true neoplasm, the majority of investigators feel it results from a reactive lymphoid hyper-

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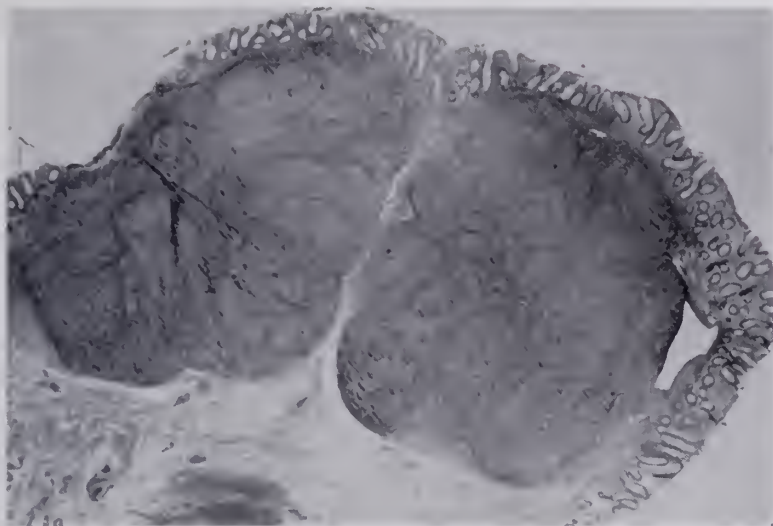


Figure 1 (H. & E. 25X)
Lymphoid polyp. Note
follicular structure and
submucosal location.

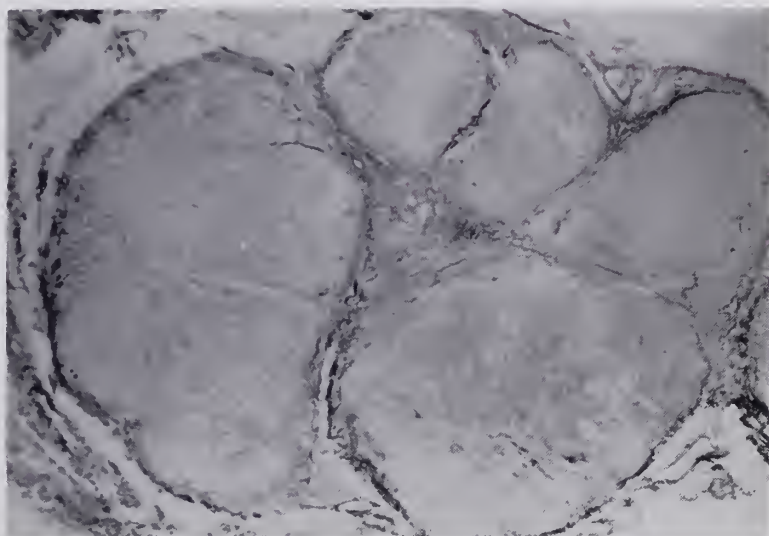


Figure 2 (Reticulum stain
25X) Lymphoid polyp.
Note lobular structure

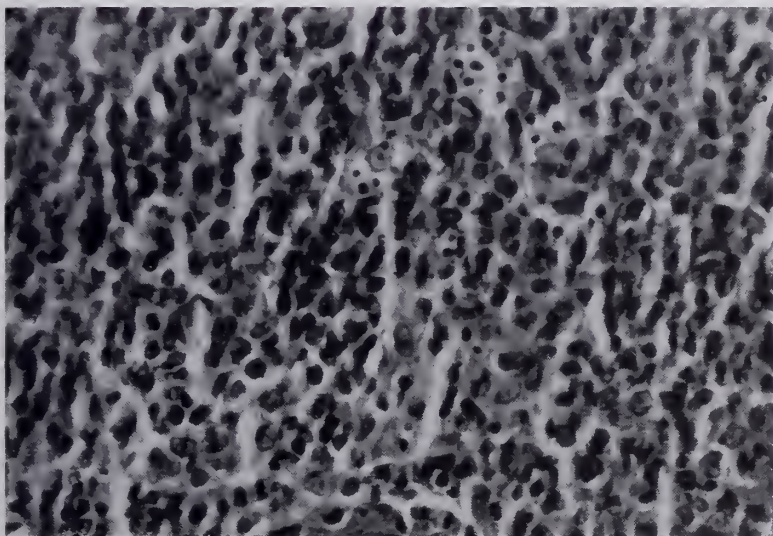


Figure 3 (H. & E. 400X)
Lymphoid polyp. Germin-
al follicle showing pha-
gocytic histiocytes.

plastia in response to an inflammatory (infectious, chemical, or traumatic) process within the rectum or anus.

CLINICAL FEATURES

The lesion occurs in both sexes and usually in adults. In Helwig and Hansen a series of seventy cases from the Armed Forces Institute of Pathology, the lesions were single in forty, multiple in twenty-five, and unknown in five. The majority are within reach of the examining finger.¹ They are usually felt as small submucosal nodules and are freely movable and firm in consistency. Most of the lesions are only a few millimeters in diameter. The variously described symptoms are probably due to other conditions, such as hemorrhoids, frequently found in the rectum and anus in association with the lymphoid polyp.

PATHOLOGY

Grossly, the lesion is submucosal, nodular, and sharply circumscribed. There is usually a broad base with little or no stalk. Cut section generally reveals soft, gray, homogeneous tissue.

Microscopically, the lesion resembles a normal lymph node in having numerous lymphoid follicles with germinal centers (Fig. 1). However, there is absence of a capsule and sinusoids and the lesion is usually subdivided into lobules by delicate tissue septa. This feature is stressed by Helwig and Hansen and is well brought out by reticulum stains (Fig. 2). The bulk of the lesion is submucosal, but sometimes the overlying mucosa shows infiltration or pressure atrophy. The lymphoid cells resemble those of normal lymphoid intestinal follicles. The reaction centers frequently show mitosis and phagocytosis of nuclear and cellular debris (Fig. 3).

DIFFERENTIATION FROM MALIGNANT LYMPHOMA

Clinically, the lymphoid polyp behaves as a benign lesion and in the literature reviewed, no recurrences have occurred, and generalized malignant lymphoma has not developed. In our three cases there has been

no recurrence in follow-up examinations varying from nine months to two years. Malignant lymphomas occurring in the rectum are rare and are usually a manifestation of generalized systemic involvement. Helwig and Hansen in a review of 395 patients with malignant lymphoma found the rectum to be involved in 17 instances. The histological features in these cases were those of a diffuse infiltration by pleomorphic lymphocytic cells without follicle formation or reaction centers.

Occasional cases of follicular lymphoma (giant follicular lymphoma) have been reported in the rectum.^{4,6} This variety of malignant lymphoma is apt to be confused with the lymphoid polyp because of the formation of follicles in both conditions. However, in follicular lymphoma no reaction centers are produced, practically no phagocytosis of cellular debris occurs, and the lymphocytic cells usually show detectable pleomorphism.

In all varieties of malignant lymphomas occurring in the rectum, the muscularis propria is frequently invaded. As stated previously the lymphocytic cells in the lymphoid polyp do not extend beyond the submucosa.

SUMMARY

The lymphoid polyp (benign lymphoma) of the rectum and anus is a benign lesion and should not be confused with the malignant lymphomas. As the term lymphoma is now invariably used synonymously with malignant lymphoma, it appears advisable to drop the designation benign lymphoma and to refer to this innocent lesion of the rectum and anus as the lymphoid polyp.

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THE LIVING TRUST FOR DOCTORS

● A Living Trust is created by transferring property, securities or cash to a trustee under a trust agreement. The income may be payable to the maker of the trust or to anyone he names and may end at any designated time—of his death—or may continue beyond that point for the beneficiary named. The author sets forth the advantages of this type of trust fund to those engaged in the medical profession.

LEONARD S. HOLE

Vice President and Trust Officer
Farmers Bank of the State of Delaware

Is it the doctor's training to rely upon his own education, experience and judgment in the practice of his profession that makes him averse to delegating his non-professional tasks to others? There would seem to be no other explanation to the generally accepted statement that doctors are poor business men.

It must be conceded that a material improvement has occurred during the past thirty years. Before World War I, the writer

of this article helped pay his way through law school by collecting doctor bills. In those days, the doctor's bookkeeping arrangement usually consisted of the bottom drawer of his desk in which were stuffed hastily drawn memos—upon which were written a date, a name with address and the hoped-for fee. Today, nearly every doctor maintains a complete set of books and someone trained in keeping them. The income tax has been responsible for this improvement.

But while the doctor has become a better business man by delegating the task of keeping the money coming in, he has not fully realized that he needs more than a bookkeeper or an accountant, no matter how efficient, if the estate he is accumulating is to be protected for his own retirement and for his wife and children in the event of death. To this end, he should have a talk with the Trust Officer of his bank.

To many people, trust service of banks is limited to acting as Executor or Trustee under Wills. They do not realize that a large portion of their business is devoted to handling the financial affairs of living persons under a form of agreement known as the "Living Trust." There is no group of people to whom this service can be of greater value than the men and women engaged in the medical profession.

The Living Trust is always a tailor-made instrument, with such provisions for the distribution of income and principal, as may meet the needs and wishes of the maker of the trust, the Trustor. While there are many types of Living Trust with different income tax, gift tax and estate tax consequences, this discussion of the subject will be limited to the type of greatest interest to doctors, the Revocable Living Trust.

To create a Living Trust, the Trustor assigns and delivers to the selected bank or trust company—cash, securities and sometimes real estate. The trust agreement outlines the duties and powers of the Trustee and the powers retained by the Trustor. Sometimes the Trustee is given unrestricted powers to sell and purchase securities. Sometimes the Trustee is required to obtain the Trustor's consent. The trust is amendable and revocable at any time. In most cases, the Trustee is directed to pay the entire net income to the Trustor himself though another beneficiary or other beneficiaries can be named.

One may ask how the Living Trust as above described differs from an agency and what advantages are obtained through the Living Trust.

An Agency terminates at the death of the owner of the property. A Living Trust continues after the death of the Trustor for management and distribution of the income and principal as provided in the trust agreement. Thus, the Living Trust Agreement acts as a Will insofar as the trust assets are concerned.

There are three advantages to be obtained by having a Living Trust continue after death:

1. The trust never becomes a public document as in the case of a will, so that the provisions made for one's family are completely confidential.
2. Since administration fees allowed to an Executor or Administrator is dependent upon the value of personal property passing through administration and since property passing by means of a Living Trust, does not pass through administration, the saving in administration expenses of the estate is substantial.
3. There is no delay in transferring the benefits of the trust from the original beneficiary to succeeding beneficiaries. Property passing through administration usually requires from nine months to a year before legatees and beneficiaries under Wills can receive the amounts to which they are entitled.

The following are questions frequently received concerning Living Trusts together with the answers:

Q. How small a trust will a trust company accept?

A. A few trust companies set a minimum but the general practice is to accept any trust where a real need for one exists. It can be quite small provided the Trustor plans to make additions to it from excess earnings.

Q. How does a bank or trust company invest small trusts?

A. Most banks with trust departments maintain, under constant supervision of the Trust Committee, a Common Trust Fund,

which is a large investment account containing both stocks and bonds. Interests in this Fund can be purchased at the net asset value for the smaller trusts which will give them the diversification so necessary for conservative investment.

Q. If a trust should exceed \$100,000.00, what investment program would the bank follow?

A. That would depend upon the general economic and market outlook at the time. Other factors would be considered such as the need of the beneficiary or beneficiaries for income.

Q. Can the Trustee be directed to accept a certain investment philosophy with relation to the trust?

A. Yes, as long as the Trustor is willing to relieve the Trustee of all liability if loss should result therefrom.

Q. What are the legal requirements for the investment of trust funds in Delaware?

A. Delaware has adopted the "Prudent Man" rule. In other words, there are no restrictions regarding the type of investment; the only requirement being that the Trustee invest as a prudent man would do in investing his own estate.

Q. Are there any tax savings to be obtained by establishing a Revocable Living Trust?

A. Not unless the trust continues beyond the life of the first one named as income beneficiary after the death of the Trustor. No estate or inheritance taxes will be due when that beneficiary or succeeding beneficiaries die.

Q. Are there any tax savings obtained by establishing an Irrevocable Living Trust?

A. Yes. An irrevocable trust for the benefit of someone other than the Trustor is a gift, and if it exceeds the annual exclusion and lifetime exemption, will be subject to the Gift Tax. The income, however, is taxed to the beneficiaries instead of the Trustor. The trust assets will not be included in the

Trustor's Estate at his death. This usually makes for a considerable tax saving.

Q. What is the Short Term Living Trust and what are the Income Tax consequences?

A. When a trust is irrevocable for 10 years or longer or for the life of the Beneficiary, who is not the Trustor, the income is taxed to the trust, if income accumulates, or to the beneficiary if the income is distributed, and not to the Trustor. Trusts for charities need be irrevocable for only two years to receive this tax treatment.

Q. Does the bank or trust company keep a complete record of all receipts and disbursements and a record of the cost of securities and the dates of purchase?

A. They do even more. They will furnish annually, a complete statement of all items to be included on one's income tax return. This saves the listing of individual stock dividends and the breakdown of gains and losses on the sale of securities.

Q. Will a Revocable Living Trust qualify as a Restricted Retirement Trust under the Jenkins-Simpson Bill now before Congress?

A. When and if this bill is passed, permitting those self employed to contribute a limited amount of income annually tax free to a Restricted Retirement Trust, the trust can be amended so as to qualify.

Q. Is trust service expensive?

A. The rates charged in Delaware usually follow the schedule adopted by the Court of Chancery. Rates, starting at 5% of the income decline as the size of the trust increases. It should further be remembered that trust commissions are a deductible item on the income tax return of the Trustor. It is never a question of whether one can afford the service, but whether one can afford to do without it. The savings, in time, to the doctor is worth many times the cost of the trust. How else can he be free to devote all the time demanded by his profession, and also enjoy periods of leisure and vacations, assured that his financial affairs are under the constant supervision of a responsible bank experienced in these matters!

AN INDICTMENT OF HATE*

● This is a case study — an indictment of hate hurled against the home environment and milieu of a rebellious and resentful teenage girl.

SHELDON W. WEISS, Ph.D.**

We shall call the subject Judy. Judy was referred to the Mental Hygiene Clinic through the information services of the Mental Health Association. The reason for the referral stated: "Sexually promiscuous, very poor relationships with peers, expelled from school because of truancy." Judy received a thorough psychiatric evaluation which included psychological testing and counselling by the author.

At the time of referral Judy was seventeen years old. Two months prior to the referral she had been relocated at the home of her brother and sister-in-law and their two children because her brother felt "Judy might improve if she was away from our parents' home."

Judy informed the psychiatric social worker that she had engaged in sexual re-

lations with an eighteen year old boy when she was fourteen years of age. She stated that she had known the boy for only a month and had felt terrible after the episode. A year later a second sexual act occurred with a sixteen year old boy whom she had known for only a week. There were two more such events in the following two years. It was noted that the subject engaged in these relationships with four different males and was not approached a second time by any one of the boys. The social worker observed that "Judy appeared bothered more by the fact that she was not sought out again by the same male than she did concerning her actions."

Judy's history revealed that her familiar relationships were distant and erratic. She stated that her father was never close to her and that he was "distant and cold." Her father appeared to be a strict disciplinarian with Judy's two older siblings but was "un-

*The names and events have been altered to insure anonymity.

**Chief Clinical Psychologist—Delaware State Hospital & Mental Hygiene Clinic.

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interested" in Judy. After discovery of her sexual conduct, the father became beligerant, almost totally rejecting her. Judy claimed that her mother was "old fashioned like my father." She added that her parents always wanted her to be refined and to sit at home and be a young lady. Judy attended parochial school through the ninth grade from which she was expelled because of truancy, misbehavior and general disinterest in academic work.

The results of the psychological examination disclosed:

"... The subject made a poor physical and social appearance, appearing much underweight for her stature. Her clothing appeared somewhat shabby and ill-fitting. Her hair was uncombed and unkempt. . . Intellectually the subject appeared to be functioning in the average, normal range, achieving a Full Scale I.Q. of 102. There were no test signs of any gross cardinal organic impairment or dysfunctioning. The projective material disclosed a pattern of gross immaturity, dependency and social inadequacy. The subject did not appear to be making constructive use of her potentialities. There was much self-doubt and uncertainty displayed with marked ambivalent feelings towards important personages in her environment. Emotionally the subject appeared somewhat out-going and labile with marked tendencies toward impulsivity and acting-out of aggressive impulses. Evidence of moderate anxiety was present which the subject appeared to minimize through verbal expression of contempt for her surroundings and for those she views as responsible for her plight. Reality testing was fairly well maintained and ego-strength appeared sufficient to hold her destructive wishes and impulses in check. Both her performance on the tests as well as during her psychological examination, evidenced much confusion, inner disharmony, immaturity and marked feelings of inadequacy. . ."

After being seen by the psychiatrist, Judy was diagnosed as an Adjustment Reaction of Adolescence with the recommendation that she receive therapy at the clinic. Because of the possibility of endocrine dysfunctioning, Judy was seen by the endocrinologist who reported: "Weight: 82 pounds, height 61½ in. Thyroid is negative. Pulse and pressure normal. Musculature moderate, generally lean. General nutritional state is substandard and thin. PBI

and Blood Cholesterol within normal limits." A dietetic regime was instituted.

Psychotherapy was commenced four weeks after her initial contact with the clinic. At the onset, Judy posed her critical questions: "Why do I act like I do"? and "Why do I hate so much"? It wasn't until several months of therapy had transpired that she began to answer some of these questions for herself. On the fifteenth session Judy reported to the clinic with an autobiography that she had written during the previous week. It contained the following material:

"... I suppose I could tell from being around my parents that they were very displeased with me, like I was their daughter and they were stuck with me. It seemed to me that I got the attention I needed but never the love I craved. I always did and still do believe that they felt sorry for me. Then I can remember that I also thought they had adopted me, that I didn't really belong to them. I wonder also if I was born a crippled child because quite often as I got older my father always used to say: "Oh you old cripple," and I would shout back in tears: "I am not, you bitch." "

I used to be very happy when we had company because they seemed to be glad to see me, they seemed interested in my actions. I felt very unloved and unwanted and unneeded. Whenever I would want to help my parents with anything around the house, I would get turned down either by one of my father's witty wisecracks or my mother's "Oh, but you're so delicate" refusal. It took quite a bit of time to get my shell hard enough so no one would know the real me. I was bold as my mother would say. In the seventh grade I began to smoke and I don't know how many tons of cigarettes I smoked. I knew I was being bad but I didn't care any more, not about anything. That's what I wanted to believe. Underneath I was a hurt little child that I thought nobody could love. Not even a little bit. I suppose as a child I was always bored; not just sometime but all the time.

I had a bike but never rode it; skates but never skated. I only wanted to be loved by somebody. I suppose when I was real young I wanted my parents' love, but as I got older and saw I wasn't getting theirs, I suppose I would look to anybody to love me. I never seemed to have any playmates. They always made fun of me because of the funny way I walk. But I said to myself that I hated them all. Then I went to school and got bored with that. I was always looking for someone to

care for me and when nobody cares about you, you begin to hate and fight back. My mother was always buying things for me, as a matter of fact, it seems now that both my mother and sister were always competing to see who could buy me more things. Now when I look back I can see where I didn't want what they could buy me, all I wanted was their love and you can't buy that with money. I never think I've done anything that I really wanted to do. My parents or sister were always telling me what to do. They ruled me with an iron hand and I reacted to them with hate. They tried to teach me responsibility but you can't teach anything without kindness.

I guess I'm afraid of things that other people do because I don't do them myself so I feel like an odd-ball. I want to be like other people but so many times I feel I'm lazy and don't really want to help myself. I guess all these years I've gotten to learn that if nobody cares about you then what's the use of caring about yourself. You see, I guess when you get right down to it I'm just a scared little girl who could never really admit it to myself or to others. I always felt I must have been stupid, not capable of helping myself because if I admitted I needed someone else's help, then I couldn't help myself. All I ever really learned to do with my life is hate.

I hate myself, my parents, my sister, in fact, I hate everything. I hate everything I ever did because it was stupid. My parents must have thought you grow up like a machine, needing only

gas and oil and no love. Now they're all watching me and criticizing me and blaming me for what they really caused. They didn't have the time to love me and care for me when I needed it but after I have already destroyed my self-respect and pride, then they all come running and screaming their heads off "Oh, you poor child, we must help you." Why couldn't they help me when I needed it?

Sexual relations, four, five or how many times, I don't care who knows about it. Everybody called me a prostitute and maybe I am. Maybe a prostitute is more than I ever was or ever will be. I suppose I didn't care what they called me. I begged for their love but they were always too busy to pay attention to me. All they cared about was themselves, expecting me to be seen and not heard. It's taken me seventeen years to get here to finally begin to understand myself. . ."

Having been able to bring out and discuss this vital, emotionally charged material, Judy proceeded to make rapid gains in her treatment. The hate that she felt towards her parents, siblings and peers gave way to understanding, tolerance and love. The immature ideas of love based on attention and selfishness were replaced with a genuine feeling for people and ideals as well as an increased feeling of self-esteem and respect. I think Judy found *her* answer.

DON'T BE A "HACK," SAYS SAVANT

The private practice of medicine, a tradition every thinking person wishes to secure and perpetuate, rests fundamentally on the freedom of the physician to practice the art and pursue the science of medicine free of any outside influence. *Rear Admiral H. G. Rickover*, father of the atomic submarine, gave emphasis to this in a recent address at the Stevens Institute of Technology when he said:

"Service ceases to be professional if it has in any way been dictated by the client or employer. The role of the professional man in society is to lend his special knowledge, his well-trained intellect, and his dispassionate habit of visualizing problems in terms of fundamental principles to whatever task is entrusted to him. Professional independence is not a special privilege but rather an inner necessity for the true professional man, and a safeguard for his employers and the general public. Without it he negates everything that makes him a professional person and becomes at best a routine technician or hired hand, at worst a hack."

Newsletter, California Medical Association

SUB-COMA INSULIN TREATMENT

In Delaware State Hospital

AYDIN Z. BILL, M.D.*

Although there is a generally accepted definition of deep coma insulin therapy, the concept of sub-coma insulin treatment is not very clear. Kalinowski and Hoch describe sub-coma as "practically the same as Phase I of insulin shock treatment." The concept of Payne Whitney Psychiatric Clinic of sub-coma is "the level in which the patient barely responds to one or two strong noxious stimuli, and does not respond to any weak stimuli." Rennie defines it "with the production of somnolence and clouded consciousness, the treatment stopping just short of loss of consciousness and stupor phenomena." Sargent and Slater, as explained under the title of *"Modified Insulin Therapy"*, terminate the treatment with a maximum of 100 units—"provided that the patient is still able to eat the food given him at the end of three hours." According to Laqueur, *"The criteria of percoma is when a patient is dizzy, slightly confused, displays cold sweat and tremor, but still can be reached by calling his name or by mild pain stimuli."*

While the definition is not clear, the terms used for sub-coma insulin treatment differ greatly, such as "modified insulin treat-

ment", "half coma", "precoma", "ambulatory insulin treatment", "light coma", "superficial coma", and "stupor".

We give insulin treatment primarily to achieve mild and moderate states of hypoglycemia. As is universally known, this produces many changes in the vegetative functions reflected in a decrease of tension and anxiety also in increase of weight. In our insulin treatment war, we bring the patient to the verge of coma, reaching a level between the end of Stage I, and the beginning of Stage II. The dosage of insulin used in order to achieve this level, differs widely for each patient; however, the effective doses range between 10 and 230 units.

The clinical response is quite characteristic and similar to that defined by many authors. As the first symptoms of hypoglycemia appear, the patient displays profuse perspiration, salivation, hunger, thirst, parasympathetic and sympathetic hyperactivity following each other in waves. Within two and a half hours the patient shows difficulty in thinking, hypotonia, impaired alertness and confusion. Responses to stimuli become increasingly inadequate and patient displays slurred speech. Motor manifestations vary from mild twitching to grand mal convulsions. The patient may

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laugh or cry loudly, exhibit apraxia, aphasia, loss of speech, and manifests a decreased response to strong stimuli. At this stage we terminate the treatment.

TECHNIQUE

During the treatment all patients are kept in one room. The room is kept in semi-darkness, in silence, and the patient at complete rest. Before the treatment each patient had been gone over thoroughly to make sure there were no contraindications to the treatment. Insulin injections are given intramuscularly at 7:00 a.m. Termination of the treatment is at 10:00 o'clock sharp. At this time the ward physician who is assigned to insulin treatment, evaluates the patient's response in order to determine the dosage for the next day. Patient's food intake at every meal is carefully supervised and the patients are kept under close supervision to prevent the occurrence of delayed reactions in the afternoon or evening.

At the time of termination of the treatment, the patients receive a very light breakfast, consisting of coffee, fruit juice, and two slices of toast with either butter or jam. We stress the importance of breakfast being light so that the patient does not lose his appetite for the main meal at noon. Patients are encouraged to eat between meals and these are recorded too.

A daily treatment, and weekly weight charts are kept. On it are shown half-hourly records of pulse, the amount of insulin and glucose given each day. Accordingly, the time of desired level of treatment and the time of termination are also recorded. We give full treatments on five days a week, and the treatment continues for eight weeks. Every Saturday morning the patient is interviewed to evaluate the progress of the treatment.

The starting dose of insulin therapy is 10 units, and the dosage increased by 10 units daily until the desired level is achieved. When this level is reached, it is kept in that stage. Due to the fact that some patients become more sensitive to in-

sulin as the treatment progresses, it is sometimes found necessary to reduce the dose 10 units each day. In one of our patients we found that when the insulin dosage was decreased to 10 units, the patient was still very sensitive and was on the verge of coma. This patient is one of our two cases who did not receive any benefit from this treatment.

We usually terminate the treatment by giving 480 cc. orange juice with glucose, orally. In some cases, when the patient seems unable to take anything by mouth, the treatment is terminated by 50 cc. 50% glucose given intramuscularly. None of our patients need more than the above to gain full consciousness.

After the noon meal, the insulin patients are encouraged to participate in all activities on and off the ward.

In some cases we combined sub-coma insulin treatment with electroconvulsive treatment, or a neuroleptic drug, such as Thorazine or Compazine. The results in these cases were very encouraging.

MULTIPLE DOSE TECHNIQUE

In four of our cases under treatment at the time this article was written, we applied multiple dose technique as described by Laqueur and LaBurt.

In the first case the patient was put on a straight dose technique as described previously, and although the dose was increased up to 230 units daily, the patient remained very calm, relaxed, responding verbally, and was not perspiring at all. Then, on the fourth week of the treatment, we changed to multiple doses, starting 20 units at 7:00 o'clock, 20 units at 7:15, and 20 units at 7:30. The next day patient received 30 units at 7:00, 20 units at 7:15, and 20 units at 7:30. Patient became drowsy, and perspired moderately. We continued to increase the doses 30-30-20, 30-30-30, and finally to 40-30-30 at the above time intervals. On one occasion when the patient received 100 units with multiple dose method, she became very drowsy, and

subsequently displayed involuntary sucking reflexes. She did not respond to strong pain stimuli (supra-orbital pressure). Patient was not able to take any drink by mouth and treatment terminated by giving 50 cc. 50% glucose intravenous.

The second patient was rather sensitive to insulin. A single dose of 100 units of insulin was enough to bring this patient to the verge of coma. On the third week of her treatment we gave multiple doses beginning with 10 units at 7:00 o'clock, 10 units at 7:15, and 10 units at 7:30. Although she received 70 units less than her regular daily dose, she went into coma and her treatment had to be terminated with 100 cc. 50% glucose given I.V.

The third patient's response was similar to the above patient's; however, in the fourth patient the multiple dose method proved to be very potent, while a single dose up to 220 units daily produced a very slight reaction.

During the sixth week of the fourth patient's treatment, we switched to the multiple dose method beginning with 20 units at 7:00 o'clock, 20 units at 7:15, and 20 units at 7:30. Patient then began to display profuse viscid perspiration, salivation, her eyes became fixed, and she responded only to strong painful stimuli. Her treatment was terminated by giving 50 cc. 50% glucose I.V. and the next day insulin dosage was reduced to 20-20-10 units. The patient again passed into the second stage, this time with excitation and agitation. Treatment was terminated with 100 cc. 50% glucose given I.V. and it was decided to change her treatment with the single dose method because she was extremely sensitive to the multiple dose method.

In the case of our four patients the multiple dose technique proved to be more effective than single doses and required approximately only half of the amount of insulin used in the single dose method.

With the multiple dose method, termination time of treatment was changed to 11:30 a.m. Patients' meal time was also changed in the following manner: they had

their lunch at 12:00 o'clock, dinner at 5:00, and a snack at 8:00 (using Laqueur's method).

CASES

In acute and subacute wards of Delaware State Hospital, we have treated seven patients with sub-coma insulin treatment, during the last six months. Five of the seven patients were clinically improved or recovered enough to be sent home. Two of the patients did not show any favorable response except a gain in weight.

Case I:

This was a 37-year-old married woman, who was admitted to Delaware State Hospital in August 1951 for the first time in a catatonic excitement state. Initially she was treated with electro convulsive therapy (ECT) and after ten treatments she was put on deep insulin coma therapy during which she received 58 treatments with 25 comas. She was discharged in March 1952, after staying in the hospital for eight months. Her second admission came in April 1956. This time she was mute, appeared withdrawn, catatonic and negativistic. Under sodium amytal, patient still refused to talk. It was reported that the patient had not been eating for seven days. Intravenous feeding had been started to prepare the patient for electro convulsive treatment. After her second treatment she began to talk about some of her difficulties encountered during her psychotic episode. In June 1956 she was put on a course of Thorazine treatment, 150 mg. per day. At the end of the same month, she was sent home under the supervision of the Home Care Program. She continued to take her medication, but in November 1956 she refused to take Thorazine any longer. Six months later she was admitted to Delaware State Hospital for the third time. She was in a catatonic stupor. She was negativistic, mute, and resisted any attempts to open her eyes. She was put on electro convulsive treatment, and after the fourth treatment started to talk. She was put on a course of Thorazine again, and in a very short time she showed a good adjustment and proficiency in her duties. Six months later she was sent on Trial Visits, from which she returned in a catatonic stupor on January 24, 1959. She was mute, refused to eat, resisted any attempts to open her eyes, and lay in a statue-like position. This time she was put on combined sub-coma insulin treatment and electro convulsive therapy. In the first week of her treatment, she regained consciousness, cooperated fully with the treatment, and was very cheerful and exhibited a good sense of humor. She was discharged as recovered after being in the hospital only four months.

Case II:

This was a 19-year-old married woman who was admitted in December 1958, three months after the birth of her child. Her diagnosis was Schizophrenic Reaction, Catatonic Type. She was very excited, shouted loudly, and was completely unmanageable. Upon admission she was put on a course of electro convulsive treatment, but after the fifth treatment it was discontinued due to deterioration of her condition. She became extremely excited, overactive, and unmanageable. Then a course of Compazine treatment was started, 25 mg. t.i.d. At first there was a very marked improvement, but at the end of four weeks, the patient developed marked extrapyramidal symptoms, and because she became extremely excited, aggressive, hostile, and hallucinated, drug therapy was therefore discontinued. In this case both treatments, ECT and Compazine, failed all the way. In February 1959, she was put on sub-coma insulin treatment and in March 1959, Thorazine 100 mg. t.i.d. was added. Since the termination of insulin treatment, patient has remained quiet, cheerful, cooperative, and well adjusted to the ward and her duties. At the present time she is under the supervision of the Home Care Program.

Case III:

This was a 21-year-old unmarried girl, who was admitted for the first time in November 1956, and her diagnosis was given as Schizophrenic Reaction, Schizo-Affective type. Following her admission she was put on a course of electro convulsive treatment. After the eighteenth treatment she developed a great deal of confusion which lessened in about a week, yet patient was not entirely clear then. Later on she became somewhat depressed. One month later she had begun to show some more definite improvement and was referred for individual psychotherapy. She was discharged in March 1957. She was admitted the second time in January 1959, and in February 1959 she was put on sub-coma insulin treatment. On completion of this treatment she was more cheerful, and was no longer preoccupied with ideas of guilt or ideas of impending harm or disaster. She was eating and sleeping well, and was taking a greater interest in her appearance. She was working actively in office work, and showed a little more spontaneity than previously. She was no longer fearful, nor entertained any of her former delusions. She was discharged as recovered four months after her admission.

Case IV:

This was a 30-year-old married woman who was admitted in October 1958. Her diagnosis was given as Schizophrenic Reaction, Schizo-Affective Type. Following her admission she appeared depressed, somewhat negativistic and uncooperative. She was afraid of various people and was hallu-

cinated. She was put on electro convulsive treatment which was discontinued due to deterioration of her condition, after the eleventh treatment. She was then put on a course of MK-130 treatment, 200 mg. t.i.d. After a short period of recovery, her depression and worries increased markedly. She was then put on sub-coma insulin treatment. Her treatment was completed recently. Since the end of her treatment, she has shown some definite improvement inasmuch as her mood has now become stable, consistently pleasant and cheerful with disappearance of the numerous doubts and preoccupations she had showed previously. She is far more organized than before and is no longer fearful.

DISCUSSION

Although many authors feel that there is a positive correlation between the depth of insulin treatment and a favorable response in the presented four cases of Schizophrenia, we have found that the patients benefited to a large extent from sub-coma insulin treatment where some new drug therapies and electro convulsive treatments have failed. As shown in the case of the first patient, the result of deep coma insulin treatment combined with electro convulsive therapy, and the result of sub-coma insulin treatment combined with electro convulsive therapy are practically identical. It should also be noted here that although electro convulsive treatment combined with Thorazine did help the patient, the remission was a very brief one.

In the two patients who were suffering from schizophrenic reaction, Schizo-Affective type, where electro convulsive therapy (ECT) is the treatment of choice, they either showed no improvement or were made worse. However, as it was pointed out above, they profited from the sub-coma insulin therapy.

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MEDICAL LICENSURE

IN THE STATE OF DELAWARE

ANDREW M. GEHRET, M.D.*

Contrary to generally accepted opinion, the Delaware State Board of Medical Examiners does not grant licensure for the practice of Medicine within the state. According to the Laws of Delaware which regulate the practice of medicine—as amended in 1955—the Organization structure includes the Medical Council of Delaware and the separate body known as the State Board of Medical Examiners.

The Medical Council — the parent body — consists of three members: the President Judge of the Superior Court of the State; the President of the State Board of Medical Examiners; and the third, a member of the Medical Society of Delaware, who is not a member of the State Board of Medical Examiners.

The Governor of the State appoints the ten members of the State Board of Medical Examiners from a list of resident members of the Medical Society of Delaware submitted by the Society's House of Delegates. Two members and three members are appointed in alternate years as terms of four years expire. The present Board of Medical Examiners contains six members

from New Castle County, and two each from Kent and Sussex Counties.

However, it is the Medical Council of the State which grants licenses to practice medicine upon recommendation by the State Board of Medical Examiners.

The Medical Council and the State Board of Medical Examiners operate in close harmony under the philosophy that the health of the citizens of the State of Delaware is a sacred trust.

The two bodies recognize that it is their duty to limit licensure to competent physicians, and also to throw no roadblocks into the path of demonstrably outstanding physicians who wish to practice in Delaware, providing that there is no circumvention of the state laws.

Written examinations are available twice each year in the months of January and July. Applicants for licensure by reciprocity, or endorsement of a medical license from another state, are interviewed personally in the same months. The State of Delaware does *not* recognize a certificate from the National Board of Medical Examiners as such.

For endorsement, Delaware will recognize the license of any state in the Union as

*Member Executive Committee, Federation of State Medical Boards of U. S. and Delaware State Board of Medical Examiners.

long as the applicant meets the requirements of this state. These state requirements are not a 'gimmick' on which to base refusal, but rather a program to maintain high standards. One of the 'musts' for all applicants is United States citizenship.

Insofar as reciprocity from Delaware is concerned, this state enjoys a cordial relationship with a great majority of the other states. Florida, which has its own peculiar problems, recognizes no license from another state.

Certain states, which have Basic Science Laws, require successful completion of this examination before endorsement of an out-of-state medical license.

For Delaware to endorse an out-of-state medical license, an applicant must have practised at least two years in the state from which he wishes reciprocity.

The Medical Council of Delaware, in order to encourage physicians of high calibre to locate in this state, has established the following policy: Hospital resident physicians in a specialty, desiring endorsement for a license from another state, may designate this period of residency training as time in practice if they have completed the prescribed residency training for the specialty and are American board eligible in their chosen field.

In a recent issue of one of the national magazines, there appeared an article by a physician who boasted of having acquired licensure to practice medicine in thirteen different states, by the process of endorsement. In the past, the Medical Council of Delaware has denied reciprocal licensure to individuals who merely wanted a license, but gave no reasonable indication of moving into the state.

By far the greatest problem is presented by the graduate of a foreign medical college. Incidentally, Canadian colleges of medicine are accepted on a par with their American counterparts. It is readily obvious that several hundred colleges of medicine throughout the rest of the world can

not be satisfactorily evaluated by the board. By Delaware law, a graduate of a foreign medical college must present irrefutable evidence of the following:

1. United States citizenship.
2. Satisfactory service as an intern in an acceptable American hospital.
3. Residence in this state for a period of at least one year.
4. A Degree from an accredited American Medical College.

In recent years, the Medical Council has included a fifth requirement:

5. *Successful completion of the American Medical Qualification Examination.*

Compliance with qualification number five assures interested parties that the foreign medical graduate has met certain minimal requirements. They are:

1. Has had his educational credentials evaluated by the Educational Council for Foreign Medical Graduates and has been found to meet minimal standards.
2. Has a command of the English language, both oral and written, quite adequate for the work of an intern in an English-speaking hospital.
3. Has a sufficient knowledge of medicine and the basic medical science to justify assuming an internship in an American hospital.

The Delaware State Board of Medical Examiners is a member of the Federation of State Boards of the United States. There is a yearly meeting of the Federation which is attended by a representative of the Delaware Board. Four years ago, the Federation established State Board Examination Institutes. These Institutes are open discussions among the representatives of the various State Boards at the annual Federation meeting. They are led by nationally recognized teachers in the clinical and basic science subjects. The object is not so much to standardize the examinations in the various courses as it is to have the examiners keep pace with the advancements made in modern medicine.

A side product is to further eventual recognition of all licenses from any and all states; i. e., the State of Iowa need have no fear of incompetency in accepting for endorsement a license from the State of Delaware, and vice versa.

For fuller and better understanding, during the course of the Federation's first Institute, medical education was divided into three levels:

1. Academic; completion of medical college.
2. Internship.
3. Specialty training.

It is felt that State Board examinations for medical licensure should test the applicant for his ability to assume responsibility and his fitness to practice general medicine. This would seem to adjust the level of the various examinations to the second cate-

gory; the completion of the internship, rather than medical school knowledge or the more highly technical specialty training.

In recent years, wide-spread attention has been attracted to the cost and length of time required for attaining the degree of Doctor of Medicine. In at least one center, a program is under way in which the number of years and the resultant financial outlay by the candidate will be curtailed without impairment of quality of education. Delaware state licensure laws will not conflict with this program.

The foregoing is an accurate statement of the policies and actions of the Medical Council of Delaware and the State Board of Medical Examiners. From personal communication with representatives from other similar organizations, the writer feels that the activities of the Delaware Council and Board are at least on a par with those from other states.

DIABETES DETECTION DRIVE

The Annual Detection and Education Drive of the Delaware Diabetes Association is held the week before Thanksgiving. This year, a special effort will be made to surpass the 3,890 cases examined last year. Physicians, hospitals, and allied professions, as those of nursing, pharmacy, dentistry and chiropody, are again asked to take part. The State Board of Health will lend valuable assistance. Schools and service clubs and other organizations will cooperate.

Kent and Sussex Counties have been asked to join New Castle County in the Drive, through committees appointed by the respective presidents of the County Medical Societies.

Chairman of the Drive for Delaware is Dr. Leonard Tucker. Mr. Abel Klaw, President of the Lay Society will motivate his Detection and Education Committee, side by side with the Clinical Societies' group for this purpose.

Information may be received concerning the Drive by calling the Association's office in the Academy of Medicine, Olympia 2-2413. Please leave your name and phone number.

Remember the dates of the Drive this year — November 15 to 21.

Editorials

THE ACADEMY —

October, the month in which we dedicate the new building of the Academy of Medicine, is the month of that great American game—football. The Monday morning papers will contain big headlines of brilliant runs by the halfbacks and strategy of the quarterbacks. Equally important, but relatively obscure, are the hardworking linemen without whom the runs would be impossible.

The Academy may in general be likened to the above situation. Late in 1957 under the superb quarterbacking of President Shands, the problem of needed expansion was met. The fact that we are dedicating the building this month speaks for the fact that the line held, the blockers did their work, and the *team* scored.

President Shands deserves great credit. The sixteen founders—our All American—backed by the 312 members and last, but far from least, our many friends can look with pride upon this achievement.

POLITICS vs. THE PUBLIC WELFARE —

As we go to press, Delaware is faced with two problems in which the will of the General Assembly seems to be at variance with what is best for the people.

The first problem is relatively small but obvious. Due to lack of funds, mosquito

control has been curtailed during 1959. Within 100 miles in the neighboring state of New Jersey there has been a serious outbreak of encephalitis, a disease allegedly transmitted by certain species of the mosquito. Let us hope that the General Assembly will see to it that 1960 finds Delaware protected.

The second problem is larger and, in terms of people affected, more important. In 1955 the office of Medical Examiner was created. A qualified physician was obtained from an outstanding institution. This man knew the problem in Delaware and had the ability to correct some of our deficiencies. Progress has been slow; mistakes undoubtedly have been made. There has been no question but that a system where investigation of medico-legal problems by a qualified physician is better than one utilizing only the services of a politically elected lay coroner. In May, 1959, the Sussex County Medical Society unanimously passed a resolution supporting the system of Medical Examiner.

In the same month the Delaware State Funeral Directors Association unanimously supported the same system. Similar expressions of support have come from the Delaware State Police and other law-enforcement agencies,—and from the daily press.

If the office of Medical Examiner ceases to exist, it will indeed be a sorry day.

President's Page

During the third week in September, your President performed one of the pleasant duties of office—the paying of official visits to our three county medical societies. A brief report was made to each society on the plans for the Annual Meeting and on a few of the key activities of the State association during the past year. These visits he made in one afternoon and two evenings, losing only the afternoon hours from his office. How strange this must sound to the president of a larger state society who might start in the beginning of a term of office to visit component groups and by the end of the year, with many, many days spent in this official duty, may not have had time to visit all of the state's county societies.

Our geography is such that an institution such as the Welfare Home at Smyrna is hardly more than an hour's drive from any point in Delaware; yet, probably the citizens of no state in the union are more acutely aware of the differences within state borders than Delawareans.

In a way this is quite justifiable. The economy and approach to living of New Castle County's "chemical capital" and Kent and Sussex Counties' "broiler capital" involve different problems and produce different ways of doing things. With the rapid development of our hospitals in lower Delaware in the last twenty years, one should wonder, though, if the differences in the medical communities of New Castle and those of Kent and Sussex are as pronounced as some have thought them, and really if there are any actual dissimilarities. During the visits to the Kent and Sussex Societies, your President sat and talked with those practicing radiology, anesthesiology and pathology in hospitals located in smaller communities; hospitals which formerly used to be closely associated with metropolitan hospitals. The departments of these specialists are naturally smaller than those of big hospitals, but the quality of service is unquestionably excellent and the volume of the work is entirely adequate to meet the patient loads.

As professional people with similar education, activities, and ideals, we should think more about what we have in common and less about the diminishing differences in our community practices. The county societies should and certainly will always retain their identities as local groups dealing with local problems; but empathy, or the understanding of the other man's problems, on a broader basis, which has not always been ours in the past, offers rewards, professionally and otherwise, that as physicians we owe ourselves to develop more fully.



President, Medical Society of Delaware

In Brief

F.A.C.S.

At the 1959 convocation of the American College of Surgeons held in Atlantic City, October 2, the following Delaware physicians, all from Wilmington, received the distinction of being inducted as Fellows of the world's largest organization of surgeons:

Dr. C. Davis Belcher, Dr. Edgar N. Johnson, Dr. Donald G. McHale, Dr. Edwin K. Mehne and Dr. Bayard R. Vincent.

Our Growing Population

Hospital cases for 1958 in the U.S.A. rose 700,000 over 1957, the AHA reported. Each day last year there were more than 1,300,000 patients and 48,000 newborn babies in hospitals. The Health Insurance Institute figures show that childbirth is the largest major reason for the hospitalization of women today.

Longevity or The Moon

In a Heart Research Newsletter, published by the American Heart Association, statistics prove that 654 Americans, when given a choice, would vastly prefer to spend money for medical research than put the first man on the moon. In the poll recently conducted by the Michigan Survey Research Center, the tally was: 54% in favor of "a new program for medical research;" 32% for "new approaches to juvenile delinquency;" 7% for "basic research and sciences such as chemistry and physics;" and only 3% for "putting the first man on the moon." Note: The average life expectancy in the Western World has increased 20 years since 1901, due to medical research.

Tribute 1866-1959

Abraham Flexner more than any other layman, was the man responsible for building up the nation's medical schools. His endowment of Johns Hopkins and subsequent development of that medical school as the finest of the period, reshaped medical education and created a sweeping reorganization in other medical schools throughout the United States. We are indebted to him today for this country's unparalleled standing in the field of medicine.

This Brave New World

At the first open forum of Atoms and Us in Highlands School, Wilmington, Dr. Floyd I. Hudson, executive secretary of the State Board of Health, was a member of the panel, and described fallout studies made by the Board of Health in its work for the detection and control of fallout and radiation danger. Water, waste and air samples are constantly being taken by the Board for radiation tests. It is believed that this program will increase public understanding of the dangers.

All the Tea In Japan

Two Japanese scientists in their experiments with mice, claim that tea acts as an antidote to the effects of strontium 90, the tannin absorbing and carrying away as much as 90% of the dangerous isotope.

**"The World . . .
Late and Soon?"**

"High living standards," claims George Bugbee, President of the Health Information Foundation, "are probably associated with the current high level of heart disease; high industrial development seems to be associated with respiratory conditions and definitely, high speed transportation has increased the number of accidents and fatalities."

**Heart Fund's
R.F. Program**

Free medicine for the prevention of rheumatic fever is available to the indigent R.F. patient at four hospitals in the State, according to Dr. Robert L. Dewees, President of the Delaware Heart Association.

The physicians in charge of these clinics are: Beebe Hospital, Dr. Arthur Tormet; Kent General Hospital, Dr. John Lazzeri; Delaware Hospital, Dr. David Levitsky; Wilmington General Hospital, Dr. Herman Rosenblum.

Dr. Rosenblum is chairman of the Rheumatic Fever Prevention Committee of the Delaware Heart Association.

**Monkey
"Chop Chop"**

Sir Ronald Fisher of Cambridge University, England, writes in *Industrial Medicine and Surgery* that monkeys will eventually replace human workers on the factory assembly line if brain surgery followed by intensive speech training is effective. Sir Ronald sees monkeys of the future puttering around private homes as butlers, valets and servants. *Editor's note: Being ahead of Sir Ronald, we have already noticed these phenomena.*

**Third in the
Nation**

Delaware ranks third in its rehabilitation program for the fiscal year 1958 out of the 53 states and territories which operate a similar program carried on jointly by the State and Federal Government. Delaware rehabilitated 116 persons per 100,000 population — Georgia was first with 146 and West Virginia second with 118. Delaware's Vocational Rehabilitation Division has continued to show an increase each succeeding year.

Reports show that physicians were the largest single source of referral, accounting for the referral of one out of every three persons rehabilitated. With the national average cost of rehabilitating a disabled person around \$600, figures prove that it is more costly to maintain a person in idleness or in an institution. In Delaware, the average cost per rehabilitant this past year was \$496. This could be termed as an investment as it is estimated that for every dollar spent on his rehabilitation, the disabled worker pays back \$10 in Federal income taxes during his period of employment.

**Mass Casualties
Course**

Two spaces for civilian physicians are open for the Course on Management of Mass Casualties being conducted at the Walter Reed Army Institute of Research, Washington, D. C., February 15-20, 1960. These have been made available to the A.M.A. Council of National Defense by the Office of the Surgeon General, Dep't. of the Army.

Physicians interested in attending are requested to write directly to the Council on National Defense, A.M.A. Association, 535 Dearborn St., Chicago 10, Ill.



GEORGE HOWARD GEHRMANN, M.D.

1890 - 1959

GEORGE HOWARD GEHRMANN, M.D.

1890 - 1959

Dr. George H. Gehrmann was born in Norwalk, Connecticut on October 11, 1890 and died at Fairville, Chester County, Pennsylvania on September 3, 1959. He received his M.D. from the Long Island Medical College in 1913 and served his internship in the hospital associated with that institution. He joined the duPont Company in 1915, served in the Army in World War I, and became Medical Director of the duPont Company in 1926. He retired in 1955.

Dr. Gehrmann has been a member of this Society since 1927. He was a Fellow of the American College of Physicians and the American Public Health Association. He was the first president of the American Academy of Occupational Medicine of which he was a co-founder in 1946. The Academy has since instituted an annual series of lectures known as the *George H. Gehrmann Lectures*. He was a member of the President's Committee on Employment of the Physically Handicapped, a member of the Advisory Board of the Greenbriar Clinic, White Sulphur Springs, West Virginia, and a member of the Board of Directors, Memorial Hospital, Wilmington.

In 1955 he received the William S. Knudsen Award of the Industrial Medical Association for meritorious service in the field of industrial medicine. In 1956 he received the Alumni Medallion for Distinguished Service to American Medicine from the State University of New York College of Medicine, New York City. In 1956 he also received the Distinguished Service Award of the Medical Society of Delaware in recognition of the honor he brought to the Society through his pioneering and valuable contributions in the field of occupational medicine.

The above is but a sketch of the honors received by Dr. Gehrmann; honors reflecting the esteem in which he was held by members of his profession as well as the public. There is no doubt that it was largely due to his efforts that occupational medicine now enjoys a respectable place in the medical profession.

A person is indeed fortunate if it can be said that he left the world a better place because of his having lived. Had he done nothing in his 69 years other than his work in the rehabilitation of alcoholics, his contribution to society would have been great. George Gehrmann's spirit will live in this work that he, alone, began.

Books

New acquisitions to the Library of the Delaware Academy of Medicine from January, 1959 to the present time.

In bringing its book list up-to-date, the Library would like to review the library rules for the benefit of those using its facilities.

Books, journals and periodicals may be taken out by members of the Academy only — for a period of two weeks. Extension time may be granted if there has been no request for the same material by another member. Upon request, any material will be mailed to members residing outside of New Castle County. Dictionaries, directories and material for reference must be used in the Reading Room. Cards notifying the borrower of an expired date are mailed, allowing one week of grace. Fines are imposed beyond this period.

The Library is also open to the public. The Librarian, however, reserves the right to supervise the selection made in the Library by this group.

ALLERGY

Henry Ford Hospital International Symposium: Mechanisms of Hypersensitivity, Little Brown & Co.

ANATOMY See also Neurology

Lockhart, R. D.; Hamilton, G. F.; and Fyfe, F. W.: Anatomy of the Human Body, 1959. Lip-pincott

AVIATION MEDICINE

White, C. S.; Lovelace, W. R., II; and Firsch, F. G.: Aviation Medicine; Selected Reviews, 1958. Pergamon Press

BIOCHEMISTRY

Ciba Foundation: Amino Acids and Peptides with Antimetabolic Activity 1958. Little, Brown & Company

Ciba Foundation: Biosynthesis of Terpenes and Sterols, 1959. Little, Brown and Company

Hoffman, W. S.: The Biochemistry of Clinical Medicine, 1959. Year Book

CARDIOVASCULAR SYSTEM

Braunstein, J. R.: The Ballistocardiogram, 1953. Thomas

deTakats, G.: Vascular Surgery, 1959. Saunders

Glasser, S.: Principles of Peripheral Vascular Surgery, 1959. Davis

Glover Clinic: The Practical Evaluation of Surgical Heart Disease 1959. McGraw-Hill

Katz, L. N.; Stamler, J. and Pick, R.: Nutrition and Arteriosclerosis, 1958. Lea and Febiger

Levine, S. A. and Harvey, W. P.: Clinical Auscultation of the Heart, 2nd edition, 1959. Saunders

McKusick, V. A.: Cardiovascular Sound in Health and Disease, 1958. Williams & Wilkins

Ravin, Abe: Auscultation of the Heart, 1958. Year Book

CLINICAL PATHOLOGY see under Hematology

DENTISTRY see also Neoplastic Diseases

Berlove, I. J.: Dental—Medical Emergencies and Complications, 1959. Year Book

Goldman, H. M. and Burket, L. W.: Treatment Planning in Dentistry, 1959. Mosby

Kerr, D. A.: Oral Diagnosis, 1959. Mosby

Kilpatrick, H. C.: High Speed and Ultra Speed in Dentistry, 1959. Saunders

Kruger, G. O.: Textbook of Oral Surgery, 1959. Mosby

McGehee, W. H. O.; True, H. A.; and Inskipp, E. F.: A Textbook of Operative Dentistry, 4th ed., 1956. McGraw-Hill

Peterson, S.: Clinical Dental Hygiene, 1959. Mosby

Schwartz, Laszlo: Disorders of the Temporomandibular Joint, 1959. Saunders

Shore, N. A.: Occlusal Equilibration and Temporomandibular Joint Dysfunction, 1959. Lip-pincott

Swenson, M. G. and Terkla, L. G.: Partial Dentures, 1959. Mosby

Books — Delaware Academy of Medicine

DERMATOLOGY see also Neoplastic Diseases

Lewis, G. M.: Practical Dermatology, 2nd ed., 1959. Saunders

ENDOCRINOLOGY

Hall, P. F.: The Functions of the Endocrine Glands, 1959. Saunders

Riley, G.: Gynecologic Endocrinology, 1959. Hoeber-Harper

GASTRO-INTESTINAL SYSTEM

Turell, R., ed.: Diseases of the Colon and Anorectum, 1959. Saunders

HEMATOLOGY

Coller, F. A.; Blain, A.; and Andrews, G.: Indications for and Results of Splenectomy, 1950. Thomas

de Gruchy, G. C.: Clinical Haematology in Medical Practice, 1958. Thomas

de Nicola, P.: Laboratory Diagnosis of Coagulation, 1956. Thomas

Tocantins, L. M.: Progress in Hematology, Vol. II, 1959. Grune & Stratton

Weil, P. G.: The Plasma Proteins, 1959. Lippincott

Wright, F.: The Sedimentation Rate of Human Erythrocytes, 1958. Vantage Press, Inc.

HISTORY OF MEDICINE

Ciba Foundation: Medical Biology and Etruscan Origin, 1959. Little, Brown and Company

Hugh Young—A Surgeon's Autobiography, 1940. Harcourt, Brace and Co.

Hurwitz, A. and Degenshein, G. A.: Milestones in Modern Surgery, 1958. Hoeber-Harper

INFECTIOUS DISEASES

Gould, S. E.: Trichonosis, 1945. Thomas

National Foundation for Infantile Paralysis: Collected Reprints 1957 - 1958.

MEDICINE

Cecil, R. L. and Loeb, R. F.: A Textbook of Medicine, 10th Edit. 1959. Saunders

Dunton, W. R.: Prescribing Occupational Therapy, 1945. Thomas

Friedman, A. P. and Merritt, H. H.: Headache—Diagnosis and Treatment, 1959. Davis

Moyer, J. H.: Hypertension, 1959. Saunders

Smith, A. C.: Principles of Disability Evaluation, 1959. Lippincott

Tarsy, J. M.: Pain Syndromes and Their Treatment, 1953. Thomas

Wohl, M. G.: Long-Term Illness, 1959. Saunders

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Ciba Foundation: Regulation of Cell Metabolism, 1959. Little, Brown and Company

Duncan, G. G.: Diseases of Metabolism, 4th ed., 1959. Saunders

Yi-Yung, Hsia, D.: Inborn Errors in Metabolism, 1959. Year Book

MILITARY MEDICINE

U. S. Army: Cold Injury, Ground Type, 1958. Government Printing Office

U. S. Army: Preventive Medicine in World War II, Vol. 4, 1958. Government Printing Office

Department of Defense: Emergency War Surgery, 1958. Government Printing Office

MISCELLANEOUS

Dowling, H. F. and Jones, T.: That the Patient May Know, 1959. Saunders

Institute of Life Insurance: Life Insurance Fact Book, 1959.

Medical Reference Bureau: Medical Fee Guide—California, 1959.

Reitzes, D. C.: Negroes and Medicine, 1958. Harvard University Press

Whitney, J. L.: Love and Marriage in a Changing World, 1958. Parker

NEOPLASTIC DISEASES see also Orthopedics

Belisario, J. C.: Cancer of the Skin, 1959. Butterworth

Ciba Foundation: Carcinogenesis, 1959. Little, Brown and Company

Eckardt, R. E.: Industrial Carcinogens, 1959. Grune & Stratton

Pack, G. T. and Ariel, I. M.: Treatment of Cancer and Allied Diseases, 2nd ed., 1959. Hoeber

Raven, R. W.: Cancer, Vol. I-V, 1957-59. Butterworth

Sarnat, B. G.: Essentials of Oral and Facial Cancer, 2nd ed., 1957. Year Book

Segaloff, A., ed.: Breast Cancer, 1958. Mosby

Vygodchikov, G. O.: Pathogenesis and Immunology of Tumours, 1959. Pergamon Press

NEUROLOGY see also Pediatrics

U. S. Public Health Service: The Central Nervous System and Human Behavior, 1959. Translated from Russian.

Ranson, S. W. and Clark, S. K.: The Anatomy of the Nervous System, 1959.

Sakel, M.: Epilepsy, 1958. Philosophical Library

NUTRITION see under Cardiovascular System

OBSTETRICS AND GYNECOLOGY see also Endocrinology; Neoplastic Diseases

Atlea, H. B.: Chronic Iliac Pain in Woman, 1954. Thomas

Beck, A. C. and Rosenthal, A. H.: Obstetrical Practice, 7th ed., 1958. Williams & Wilkins

- Goldberg, M. B.*: Medical Management of the Menopause, 1959. Grune and Stratton
Steer, C. M.: Moley's Evaluation of the Pelvis in Obstetrics, 2nd Edit. 1959. Saunders

ORTHOPAEDICS see also Physiology

- Duvries, H. L.*: Surgery of the Foot, 1959. Mosby
Hackett, G. S.: Joint Ligament Relaxation, 1957. Thomas
Lichtenstein, L.: Bone Tumors, 2nd ed., 1959. Mosby
Turek, S. L.: Orthopaedics, 1959. Lippincott

OTOLARYNGOLOGY

- Jackson, C. and Jackson, C. L.*: Diseases of the Nose, Throat, and Ear, 2nd Edit. 1959. Saunders
Shambaugh, G. E., Jr.: Surgery of the Ear, 1959. Saunders

PATHOLOGY see under Surgery

PEDIATRICS see also Surgery

- Lamm, S. S.*: Pediatric Neurology, 1959. Lansberger
Nelson, W. E.: Textbook of Pediatrics, 7th ed., 1959. Saunders

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- Smith, Kline & French Laboratories*: Clinical Uses of Prochlorperazine (Compazine), 1958.
Smith, P. K.: Acetophenetidin, 1958. Interscience Publishers

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- Du Bois, E. F.*: Fever and the Regulation of Body Temperature, 1948. Thomas
Gerard, R. W.: Mirror to Physiology, 1958. American Physiological Society
Goldberger, E.: A Primer of Water, Electrolyte and Acid-Base Syndromes, 1959. Lea & Febiger
Kaplan, E. B. ed.: Duchenne—Physiology of Motion, 1959. Saunders

PREVENTIVE MEDICINE see also Military Medicine
Hilleboe, H. E. and Larimore, G. W.: Preventive Medicine, 1959. Saunders

PSYCHIATRY

- Hoch, P. H. and Zubin, J.*: Problems of Addiction and Habituation, 1958. Grune and Stratton
Kline, N. S., ed.: Psychopharmacology Frontiers, 1959. Little, Brown and Company
Rinkel, M. and Himwick, H. E.: Insulin Treatment in Psychiatry, 1959. Philosophical Library, Some Observations on Controls in Psychiatric Research, 1959. Publications Office

- Szondi, L.; Moser, U. and Webb, M. W.*: The Szondi Test, 1959. Lippincott
Weijel, J. A.: Psychiatry in General Practice, 1958. Elsevier Publishing Company

PUBLIC HEALTH

- Eckstein, H.*: The English Health Service, 1958. Harvard University Press

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- De Lorimier, A. A.; Moehring, H. G.; and Hannan, J. R.*: Clinical Roentgenology Vol. IV, 1958. Thomas
Moss, W. T.: Therapeutic Radiology, 1959. Mosby
Murphy, Walter T.: Radiation Therapy, 1959. Saunders
Paul, L. W. and Juhl, J. H.: The Essentials of Roentgen Interpretation 1959. Hoeber

RESPIRATORY SYSTEM

- Adams, W. R. and Veith, I.*: Pulmonary Circulation, 1959. Grune & Stratton
D'Abrew, A. L.: A Practice of Thoracic Surgery, 1958. Edward Arnold
Veterans, Department of Medicine and Surgery: Chemotherapy of Tuberculosis, 1959.

SURGERY see also Cardiovascular System, Gastrointestinal System, History of Medicine, Neoplastic Diseases, Otolaryngology, Respiratory System and Urogenital System.

- Ackerman, L. V.*: Surgical Pathology, 1959. Mosby
Allgower, M.: The Cellular Basis of Wound Repair, 1956. Thomas
Bailey, H. and Love, M.: A Short Practice of Surgery, 11th ed., 1959. Lippincott
McLaughlin, H. L.: Trauma, 1959. Saunders
Moseley, H. F.: Textbook of Surgery, 1959. 3rd ed. Mosby
Perkins, J. J.: Principles and Methods of Sterilization, 1956. Thomas
Potts, W. J.: Surgeon and the Child, 1959. Saunders

UROGENITAL SYSTEM

- Atlas, D. H. and Gaberman, P.*: Reversible Renal Insufficiency, 1959. Williams and Wilkins
Butt, A. J.: Etiologic Factors in Renal Lithiasis, 1956. Thomas
Smith, D. R.: General Urology, 1959. Lange Medical Publications
Smorodinstev, A. A.; Chudakov, V. G.; and Churilov, A. V.: Haemorrhagic Nephrosos-Nephritis, 1959. Pergamon Press
Weyrauch, H. M.: Surgery of the Prostate, 1959. Saunders

CHART OF PARLIAMENTARY PROCEDURE

No.	Motion	May interrupt speaker?	Must be recognized?	Must be seconded?	Debatable?	Amendable?	Vote Required?	Renewable?	Reconsiderable?	May apply to following motion?	Motions that apply to it?	Yields to?	Roberts Par. Pg.
PRIVILEGED (in order of rank)													
P 1	To fix time to which to adjourn	No	Yes	Yes	No	Yes	Majority	Yes - but for different time	Yes	None	S 6 U 2	None	59 16
P 2	To adjourn	No	Yes	Yes	No	No	Majority	Yes	No	None	None	P 1	60 17
P 3	To recess	No	Yes	Yes	No	Yes	Majority	Yes	No	None	None	P 1, 2	64 18
P 4	Question of privilege	Yes	No	No	No - but resulting motion is	No	Decided by chair	Yes	No	None	None	P 1, 2, 3	66 19
P 5	Call for order of the day	Yes	No	No	No	No	None	Yes	No	Any order	None - except to postpone orders	P 1, 2, 3, 4,	68 20
SUBSIDIARY (in order of rank)													
S 1	To table	No	Yes	Yes	No	No	Majority	Yes	No	P 4, 5 - MM 11 - U 2	None	P 1, 2, 3, 4, 5	104 28
S 2	To move previous question	No	Yes	Yes	No	No	2/3	Yes	Yes	Any debatable motion	U 2	P 1, 2, 3, 4, 5 S 1 1-11	111 29
S 3	To modify debate	No	Yes	Yes	No	Yes	2/3	Yes if lost	Yes	Any debatable motion	U 2	P 1, 2, 3, 4, 5 S 1, 2 1-11	118 30
S 4	To postpone to a definite time	No	Yes	Yes	Yes Limited	Yes	Majority - if special order 2/3	Yes	Yes	P 4 MM U 2	S 2, 3, 6 U 2	P 1, 2, 3, 4, 5 S 1, 2, 3 1-11	
S 5	To commit or refer	No	Yes	Yes	Yes Limited	Yes	Majority	Yes	Yes	P 4 MM	S 2, 3, 6 U 2	P 1, 2, 3, 4, 5 S 1, 2, 3, 4 1-11	125 32
S 6	To amend	No	Yes	Yes	Yes	Yes	Majority	No	Yes	P 1, 3 S 3, 4, 5 MM - 16, 9	S 3, 6 U 2	P 1, 2, 3, 4, 5 S 1, 2, 3, 4, 5 1-11	134 33
S 7	To postpone indefinitely	No	Yes	Yes	Yes	No	Majority	No	Yes - only by "aye" side	P 4, 5 MM	S 2, 3 U 2 (aye side only)	P 1, 2, 3, 4, 5 S 1, 2, 3, 4, 5 4, 5, 6 1-11	152 34
MM	MAIN MOTION	No	Yes	Yes	Yes	Yes	Majority	Not at same session	Yes	None	All	All	51 11
INCIDENTAL (no rank)													
I 1	To Appeal from Decision of Chair	Yes	No	Yes	Certain Appeals	No	Majority	No	Yes	Any decision by chair	S 1, 2, 3	P 1, 2, 3, 4, 5 S 1	81 21
I 2	To withdraw a motion	No	No	No	No	No	Majority	Yes	Negative vote only	Any motion	U 2	P 1, 2, 3, 4, 5 S 1	100 27
I 3	To suspend the rules	No	Yes	Yes	No	No	2/3	No - except by unanimous consent	No	Any motion	None	P 1, 2, 3, 4 S 1	83 22
I 4	Point of order	Yes	No	No	No	No	Chair decides	No	No	Any motion or act	None	P 1, 2, 3, 4, 5 S 1	78 21
I 5	To make a Parliamentary inquiry To request information	Yes If urgent	No	No	No	No		No	No	Any motion	None	P 1, 2, 3, 4, 5	98 27
I 6	To divide the question	No	Yes	No	No	Yes as to proper division	Majority	Yes	No	MM S 6	S 6	P 1, 2, 3, 4, 5 S 1, 2, 3, 4, 5 1-11	89 24

I 7	To divide the assembly	No	No	No	No	Majority to order a count	Yes	No	Any motion	None	95	25
I 8	Objection to reconsideration	Yes	No	No	No	2/3	No	Negative vote only	P 4 MM	U 2	87	23
I 9	To close nomination	No	Yes	No	Yes	time only	Yes if lost	No	None	None	96	26
I 10	To consider seriatim	No	Yes	No	No	Majority	No	No	MM	None	92	24
I 11	To read a paper	No	Yes	No	No	Majority	No	Yes	None	None	101	27
UNCLASSIFIED (no rank)												
U 1	To take from the table	No	Yes	No	No	Majority	Yes	No	Only to tabled motion	None	154	35
U 2	To reconsider for entry only	Yes	Yes	Yes	If original motion is debatable	Majority	No - unless by general consent	No	except Any motion P 2, 3, 5 - S 1 I 3 - U 1, 2	S 1, 2, 3, 4	156	36
U 3	To rescind	No	Yes	Yes	Yes	2/3 if previous notice - majority	Not at same session	negative vote	Any motion	S 1-7	169	37
U 4	To ratify	No	Yes	Yes	Yes	Majority	No	affirmative vote	Any motion	All	173	39

THE MEDICAL MEETING

"What Do I Want To Do?"

INTRODUCE BUSINESS?

Main Motion (M.M.)

KILL A MOTION,

Postpone Indefinitely (S7)

MODIFY OR CHANGE?

Amend (S6)

Commit or Refer (S5)

LET A FEW STUDY A MATTER?

Commit (S5)

DEFER ACTION?

Postpone to Definite Time (S4)

Make a Special Order

Table (S1)

Reconsider and Enter in the Minutes (U2)

FIX A TIME TO ATTEND TO A MATTER?

Postpone to Definite time (S4)

Make a General or Special Order

STOP OR LIMIT DEBATE?

Previous Question (S2)

Modify Debate (S3)

SUPPRESS THE QUESTION?

Object to Consideration (I8)

Postpone Indefinitely (S7)

Table (Suppresses Temporarily) (S1)

OBJECT TO A DECISION OF THE CHAIR?

Appeal (I1)

DO SOMETHING CONTRARY TO RULES?

Suspend the Rules (I3)

DO SOMETHING CONTRARY TO BY-LAWS?

Change the By-Laws (M.M.)

CORRECT PROCEDURE?

Rise to a Point of Order (I4)

MAKE A REQUEST?

Rise to a Question of Privilege (P4)

Rise to a Parliamentary Inquiry (I5)

Rise to a Point of Information (I5)

DETERMINE THE CORRECTNESS OF AN ANNOUNCED VOTE?

Call for a Division of the Assembly (I7)

CONSIDER A QUESTION A SECOND TIME?

Take from the Table (U1)

Reconsider (U2)

Rescind (U3)

BRING THE QUESTION AGAIN BEFORE THE ASSEMBLY?

Take from the Table (U1)

Take up a Postponed Question before its proper time

Discharge a Committee

Reconsider (U2)

Reconsider and Enter on the Minutes (U2)

Rescind (U3)

Renew

REPEAL AN ACTION?

Reconsider (U2)

Rescind (U3)

PREVENT FINAL ACTION IN AN UNREPRESENTATIVE MEETING?

Reconsider and Enter on the Minutes (U2)

Contributors Column



Leonard S. Hole

Mr. Hole, author of "The Living Trust for Doctors," is Vice President and Trust Officer of The Farmers Bank of the State of Delaware. He came to the bank from Boston in 1953 after many years of experience in the trust and investment counsel fields. He is a graduate of Western Reserve University and has been a member of the Ohio bar since 1919.

Mr. Hole served in the first World War as First Lieutenant of Field Artillery. After practicing law for three years he entered the Trust Department of the National City Bank of Cleveland, Ohio and later headed the Trust Department of the George D. Harter Bank of Canton, Ohio for eleven years. Prior to his coming to Wilmington he was associated with an Investment Counsel firm in Boston.

✽

Dr. Sheldon Weiss, formerly Child Guidance Psychologist with the N. Y. State Dep't of Mental Hygiene, spent seven years as Director of Psychology Services at the State Hospital for the Criminally Insane, Waymart, Pa. Dr. Weiss is a Member of the American Psychological Association, the Society for Projective Techniques, the American Academy of Psychotherapists and Phi Delta Kappa, a national education research society.

Caleb H. Smith, M.D. is a Diplomate of the American Board of Surgery and American Board of Proctology; a Fellow of the American College of Surgeons and American Proctologic Society. He has published more than thirty scientific papers. Formerly Assistant Professor of Surgery at the University of Rochester, he is currently Lecturer in Proctology at Temple University.

✽

Born in St. John's, New Foundland, Canada, Dr. Patrick F. Ashley received an MDCM at Dalhousie University, Halifax, Nova Scotia, and interned at St. John's General Hospital. After four years in general practice, he came to Wilmington as a resident in pathology at the Memorial Hospital and the Delaware Hospital. He is a graduate Fellow in pathology of the Memorial Hospital, 1958.

✽

John S. Piendak, who recently entered the U.S. Air Force this past August, obtained his medical degree at St. Louis University and interned at the Delaware Hospital, Wilmington. Dr. Piendak is presently stationed at Mitchell Air Force Base, Hempstead, Long Island, New York.

✽

Dr. John W. Alden, Jr., Jefferson Medical College, 42, is a native of Alabama. He completed his residency training at the Delaware Hospital, Wilmington and at the University of Pennsylvania Graduate School of Medicine. His service in the U.S. Army from 1943-1946 saw him in the European Theatre—109 Evacuation Hospital. Dr. Alden is at present Attending Chief in Radiology at the Delaware Hospital, Wilmington.

✽

Dr. Andrew M. Gehret—Jefferson Medical College, Philadelphia, Pennsylvania—is an obstetrician and gynecologist on the active staff of the Delaware Hospital, Wilmington. He served as secretary of the Medical Society of Delaware for several years and is a member of the Delaware State Board of Medical Examiners.

✽

Dr. Aydin Z. Bill, a graduate of Istanbul University, 1958 came to this country to take a post at the Delaware State Hospital as Resident in Psychiatry. He is a Member of the Society of Group Psychotherapy and Psychodrama and has recently had an article published in their Journal on Group Psychotherapy and Psychodrama in Turkey.

MAJOR MEDICAL MEETINGS IN DELAWARE

Standing Schedule

Beebe Hospital	General Staff	2nd Friday	Monthly
Delaware Hospital	General Staff	2nd Tuesday	Feb., May, Sept., Dec.
Kent General Hospital	General Staff	3rd Tuesday	Monthly
Memorial Hospital (Wilmington)	General Staff	2nd Tuesday	Jan., March, June, Oct.
Milford Memorial Hospital	General Staff	2nd and last Tuesdays	Monthly
Nanticoke Memorial Hospital	General Staff	1st Thursday	Monthly
St. Francis Hospital	General Staff	4th Tuesday	March, May, Oct.
		1st Tuesday	December
Wilmington General Hospital	General Staff	4th Tuesday	Jan., April, Sept., Nov.

Kent County Medical Society	Monthly Meeting	3rd Tuesday	September - June
New Castle County Medical Society	Monthly Meeting	3rd Tuesday	September - June
Sussex County Medical Society	Monthly Meeting	2nd Thursday	September - June

Delaware Academy of General Practice	Monthly Meeting	1st Tuesday	September - June
Delaware Pathology Society	Weekly Meeting	Each Friday	

Special Schedule

Delaware Academy of Medicine	Symposium on Steroids	Academy of Medicine	November 7, 1959
Delaware Academy of General Practice	Annual Meeting	Academy of Medicine	December 5, 1959

LECTURE COURSE

Subject: Basic Electrocardiography	Place: Memorial Hospital, Wilmington
Schedule: Part I	Schedule: Part II
Time — Every Thursday afternoon 4-5 p.m.	Time — Same as for Part I
Dates: From October 29, 1959 through February 25, 1960	Dates: March 3rd through March 31st, 1960
	<i>Arrangements must be made for Part II only.</i>

For full details regarding this series write to the Director of Medical Education, Memorial Hospital, Wilmington

TWO-WAY RADIO CONFERENCES FOR THE COMING MONTH

Sponsorship: *Medical Society of Delaware, Pennsylvania Hospital, Smith Kline & French Laboratories.*

Date Topic and Faculty

- Oct. 27 — "The Role of Diuretics in Cardiovascular Disease," Joseph A. Wagner, M.D., Associate Cardiologist, Pennsylvania Hospital.
- Nov. 3 — "Steroid Therapy of Hypersensitivities," George R. Fisher, III, M.D., Assistant Physician, Pennsylvania Hospital.
- Nov. 10 — "Diagnosis and Treatment of Vaginitis, Vulvitis, Pruritis," Clarence C. Briscoe, M.D., Assoc. Obstetrician and Gynecologist to Pennsylvania Hospital.
- Nov. 17 — "Recognition, Etiology and Treatment of Fetal Distress During Labor," Paul E. Stroup, M.D., Assistant Obstetrician and Gynecologist, Pennsylvania Hospital.

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*Pratt, R. T. C., and McKenzie, W.: Anxiety States Following Vestibular Disorders, Lancet 2:347 (Aug. 16) 1958.

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References: 1. Aries, P. L.: J.A.M.A. 169:708 (Feb. 14) 1959. 2. Personal Communication on file at Medical Department, Wampole Laboratories. 3. Reports of clinical trials by 9 physicians.

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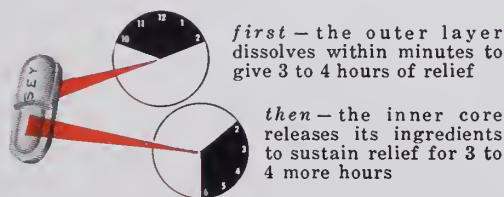
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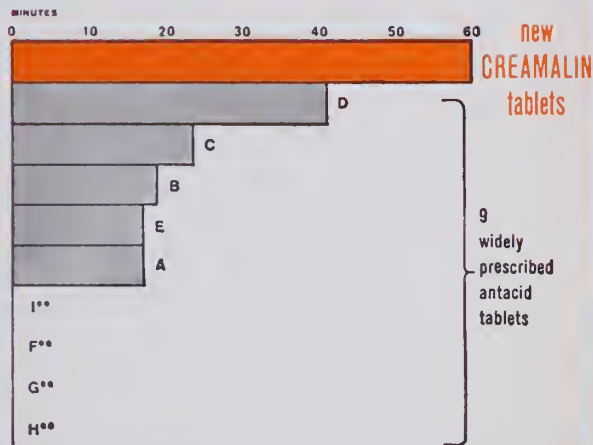
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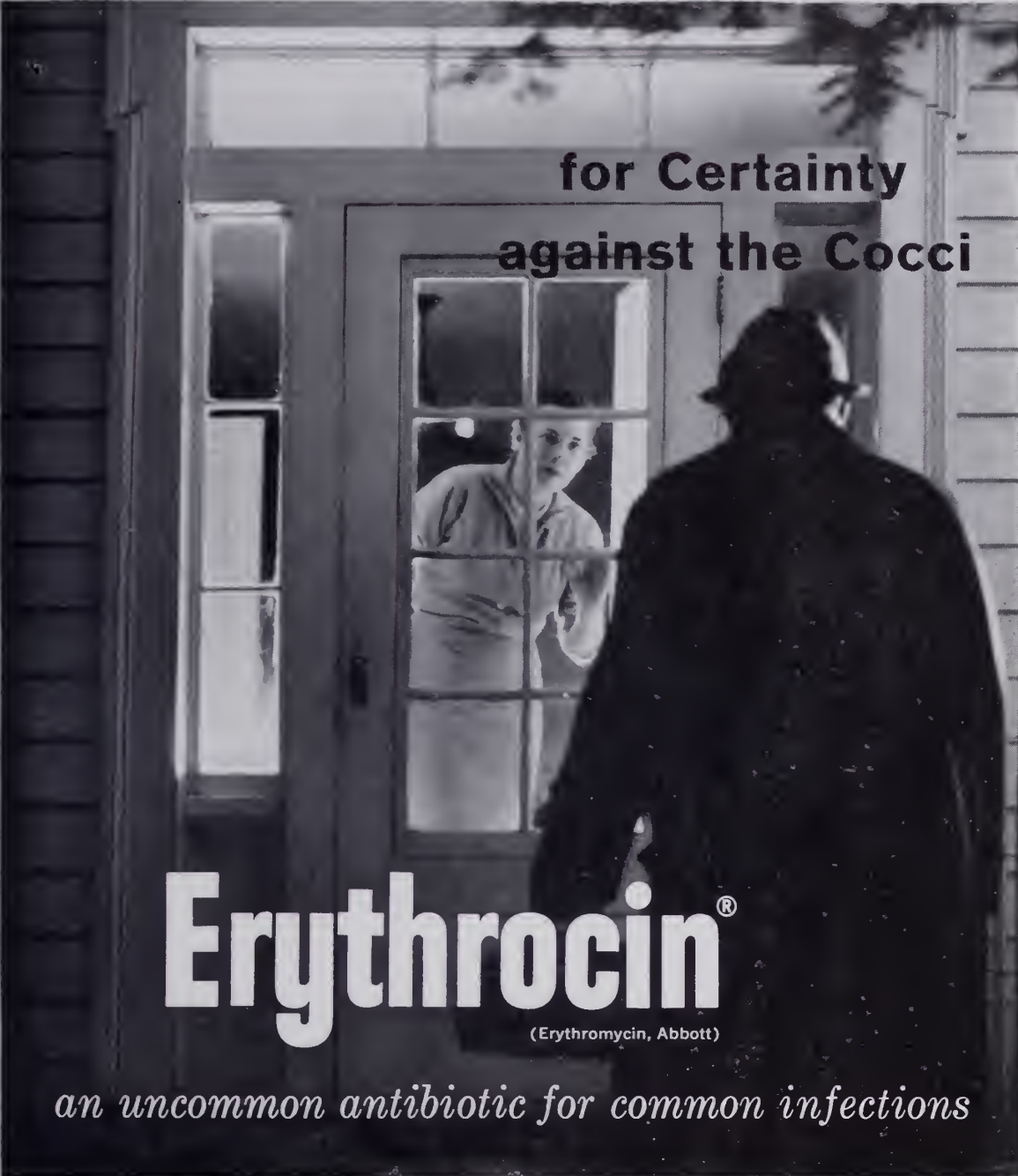
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References: 1. Spies, T. D., et al.: J.A.M.A. 159:645, 1955. 2. Spies, T. D., et al.: Postgrad. Med. 17:1, 1955. 3. Gelli, G., and Della Santa, L.: Minerva Pediat. 7:1456, 1955. 4. Guerra, F.: Fed. Proc. 12:326, 1953. 5. Busse, E. A.: Clin. Med. 2:1105, 1955. 6. Sticker, R. B.: Panel Discussion, Ohio State M. J. 52:1037, 1956.

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1. Based on estimate by Van Volkenburgh, V. A., and Frost,
W. H.: Am. J. Hygiene 71:122 (Jan.) 1933



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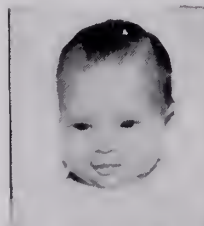
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References: 1. Reifenstein, E. C. Jr.: *Annals N. Y. Acad. Sci.* 71:762 (July 30) 1958. 2. Boschann, H.-W.: *ibid.*, p. 727. 3. Eichner, E.: *ibid.*, p. 787. 4. Hodgkinson, C. P.; Igna, E. J., and Bukenavich, A. P.: *Am. J. Obst. & Gynec.* 76:279, 1958. 5. Tyler, F. T., and Olson, H. J.: *J. A.M.A.* 169:1843, 1959.

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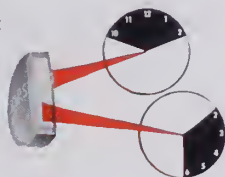
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Pyrilamine maleate 25 mg.

One-half of this formula is in the outer layer, the other half is in the core.

Dosage: One tablet in the morning, mid-afternoon and at bedtime.

References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

TRIAMINIC JUVELETS: Each timed-release Juvelet is equivalent in formula and dosage to one-half of a TRIAMINIC tablet, for the adult or child who requires only half strength dosage.

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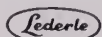
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DELAWARE STATE MEDICAL JOURNAL

Official Organ of the Medical Society of Delaware

INCORPORATED 1789

VOLUME 31

NOVEMBER, 1959

NUMBER 11

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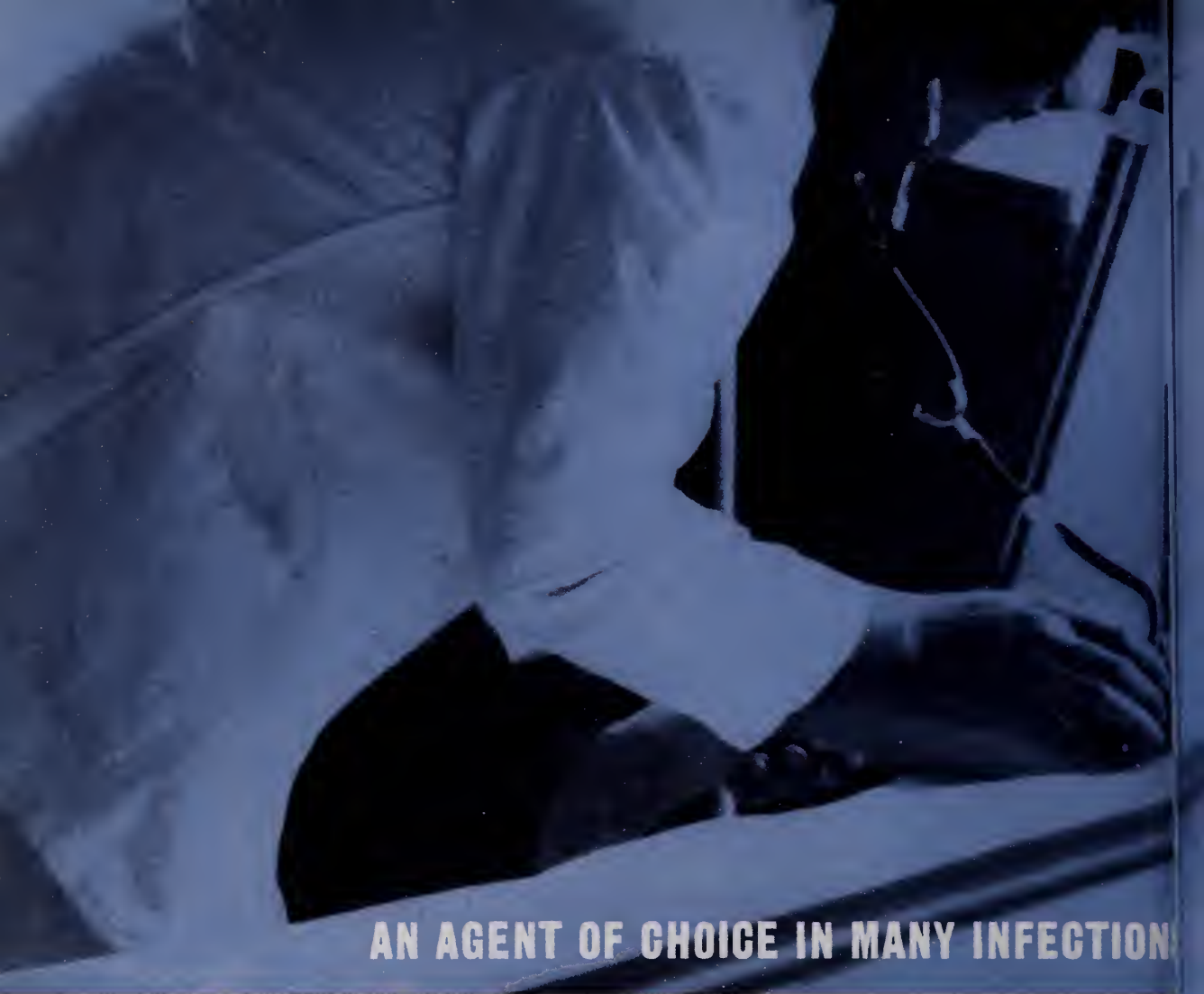
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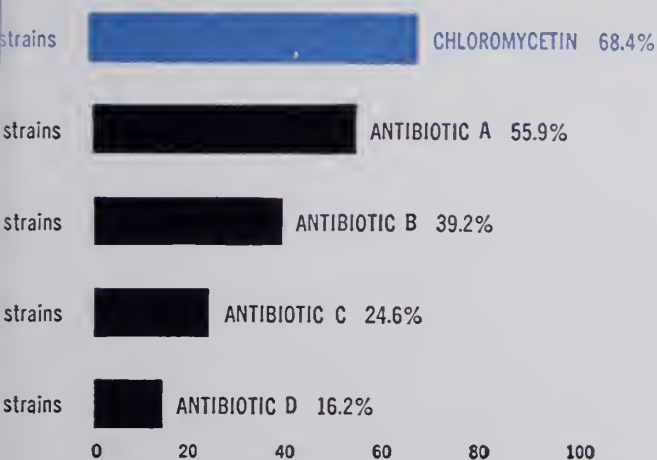
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REFERENCES: (1) Holloway, W. J., & Scott, E. G.: *Delaware M. J.* 29:159, 1957. (2) Suter, L. S., & Ulrich, E. W.: *Antibiotics & Chemother.* 9:38, 1959. (3) Murphy, J. J., & Rattner, W. H.: *J.A.M.A.* 166:616, 1958. (4) Rhoads, P. S.: *Postgrad. Med.* 21:563, 1957. (5) Horton, B. F., & Knight, V.: *J. Tennessee M. A.* 48:367, 1955. (6) Seneca, H.: *Am. Pract. & Digest Treat.* 10:622, 1959. (7) Hall, W. H.: *M. Clin. North America* 43:191, 1959. (8) Seneca, H., et al.: *J. Urol.* 81:324, 1959. (9) Wolfsohn, A. W.: *Connecticut Med.* 22:769, 1958.



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Official Publication of the Medical Society of Delaware

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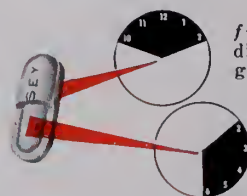
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References: 1. Farah, L.: *Internat. Rec. Med.* 169:379 (June) 1956. 2. Smigel, J. O., et al.: *J. Am. Geriatrics Soc.* 7:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: *J. Allergy* 29:358 (July) 1958. 4. Eisenberg, B. C.: *J.A.M.A.* 169:14 (Jan. 3) 1959. 5. Maryssael, L.: *Bruxelles-méd.* 33:141 (Jan. 26) 1958. 6. Pfleger, R.: *Med. Klin.* 53:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

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Trisulfapyrimidines, U.S.P.	0.5 Gm.

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References: 1. Cecil, R. L., et al.: J.A.M.A. 124:8 (Jan. 1) 1944. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Beckman, H.: Drugs, Their Nature, Action & Use, Saunders, Philadelphia, 1958, p. 527.

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Bodi, T., and Levy, H.: Clinical report, cited with permission. 2. Wetzler, R. A., and Phillips, R. M.: Clinical report, cited with permission. 3. Prigot, A.: Clinical report, cited with permission. 4. Gosline, E., *et al.*: *Am. J. Psychiat.* 5:939 (April) 1959. 5. Turvey, S. E. C.: Clinical report, cited with permission.



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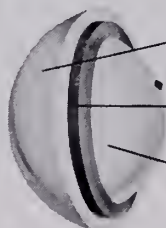
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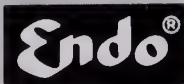
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Dihydrocodeinone Bitartrate	5 mg.	} 6.5 mg.
(Warning: May be habit-forming)		
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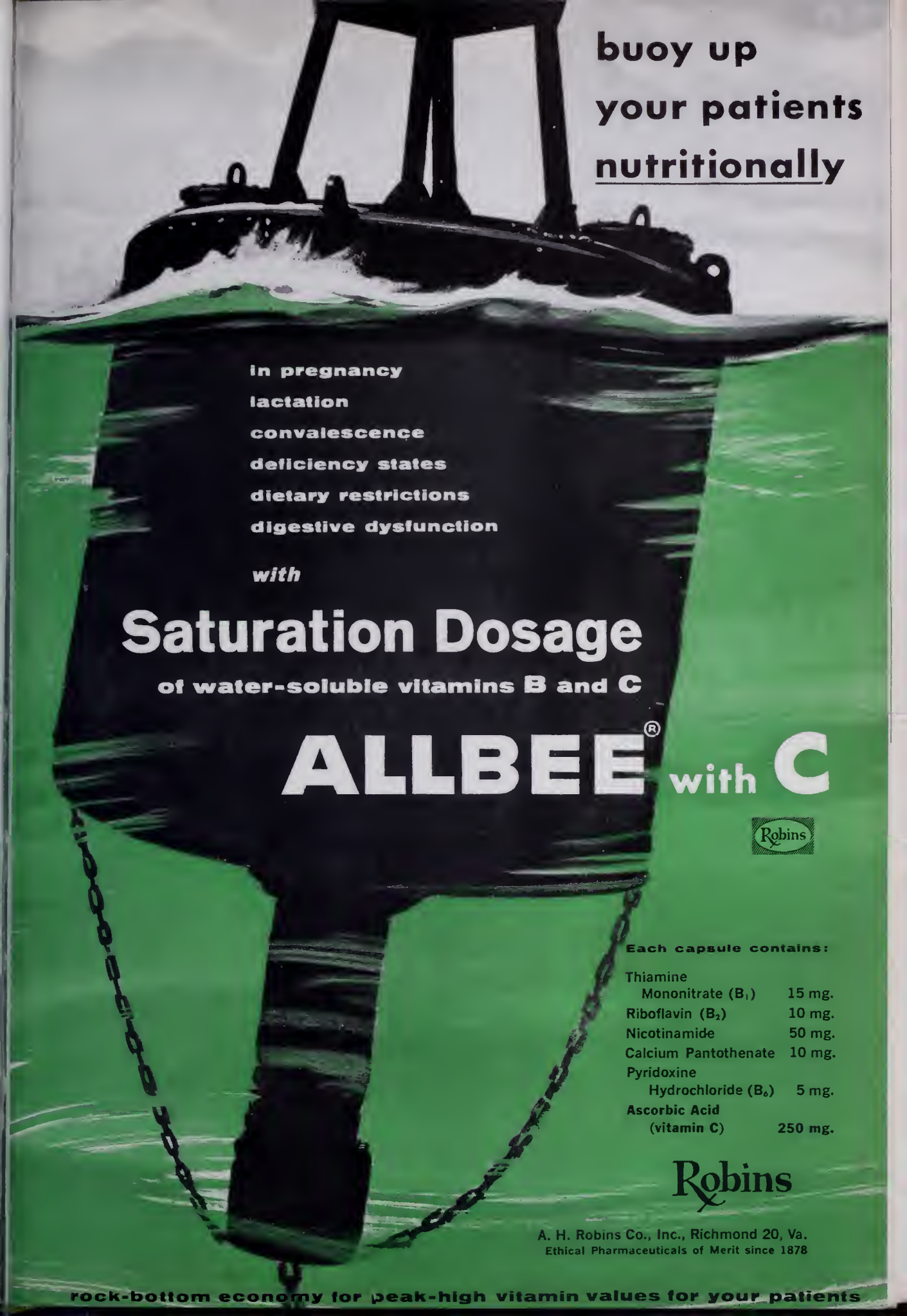
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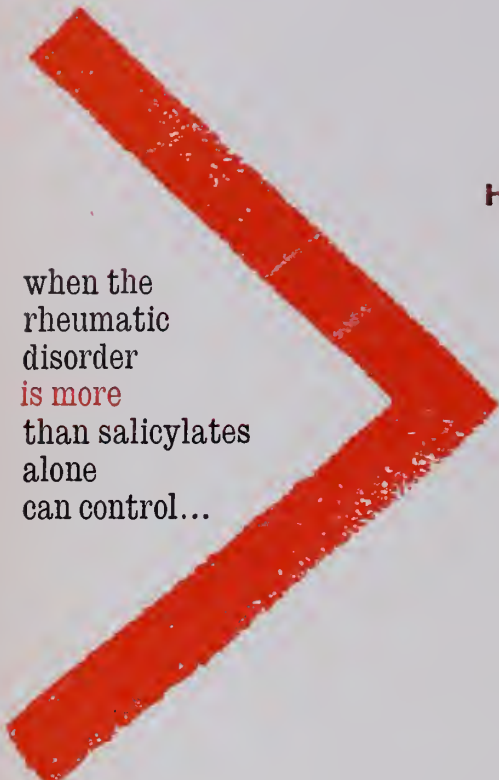
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Mononitrate (B ₁)	15 mg.
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Calcium Pantothenate	10 mg.
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Hydrochloride (B ₆)	5 mg.
Ascorbic Acid	
(vitamin C)	250 mg.

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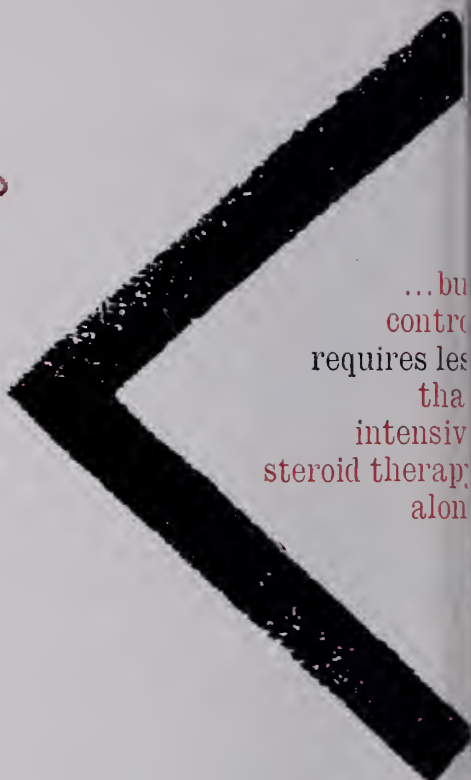
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(Excerpted from J.A.M.A., Aug. 29, 1959)



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GRANDEUR AND POVERTY OF MEDICAL SPECIALIZATION*

ASPIRATION TOWARD A NEW HUMANISM

● Doctor Ignacio Chavez is one of the great men of our age. Medicine is indeed fortunate that he chose it as his major field of endeavor. The National Institute of Cardiology in Mexico City is a living tribute to his contribution to the specialty of his choice. In this article, reproduced in its entirety from *Circulation*, he states with his usual modesty that he is neither philosopher nor historian. The profound message he conveys, a message that deserves the attention of all physicians, belies this statement and shows that, in addition, he is a true humanist.

IGNACIO CHAVEZ, M.D.

The outstanding progress of contemporary medicine is not free of perils. The profound scientific and technical transformation of medicine constitutes one of the crucial problems of our time. This is why Professor Rijlant, illustrious President of the III World Congress of Cardiology, asked me to discuss this problem and its immediate consequence, the pre-eminence of specialization, fertile in valuable achievements, but also pregnant with risks.

THE DANGERS OF SPECIALIZATION

It is true that specialization carries within itself an enormous expansive force

of progress, responsible in great part for the spectacular advance which we are witnessing, but it also contains the germ of regression in the intellectual and spiritual realm. Specialization means fragmentation, partial vision, limitation of our horizon. What is gained in depth is lost in breadth. In order to master one field of knowledge one must abandon the rest; man thus confines himself to one point and sacrifices the whole vision of his science and the universal vision of his world. With this in general culture suffers, for it must let go of much, as one who throws out ballast; then his scientific training suffers, for he ceases to look on science as a whole in order to keep a poor little portion in his hands; finally his

*Reproduced from *Circulation*, Volume XX, page 481-487, October 1959, by permission of Grune and Stratton and Doctor Chavez. This originally was a General Lecture presented before the Third World Congress of Cardiology, Brussels, September 1958.

moral world suffers, for the sacrifice of culture constitutes a sacrifice of values which should set the standard of his life. And in this drama of the present day scientist an imminent risk is foreshadowed, the dehumanization of medicine and the dehumanization of the physician.

One who looks only at the thundering race of the progress that medicine is achieving may not perceive the severe risks which that race brings with it. He may not be aware that we are at a crossroads, able to make ourselves change direction, and he may not realize that for these conquests and material advances we may all, perhaps, have to pay dearly — the physician, the patient, and medicine itself.

This is a real problem, not a fictitious one. It constitutes one of the great preoccupations of the physicians, educators, and philosophers of our time. On more than one occasion I have expressed my acute anxiety over this situation, which was unknown to our ancestors. As I am neither philosopher nor historian, I am aware of my slight competence to take up this matter, but since the problem touches me as physician and educator, I have accepted the invitation and I wish to present to you a series of reflections that aim to awake the interest of all, old and young. Above all, I feel it important to address myself to the young, for they are those who will shape the medicine of the future and upon them depends the stamp they will impress upon it as a science, and the form of medicine which they will practice tomorrow as a profession.

I know very well that a long exposition of general ideas is not to the taste of our age, and that physicians usually prefer concrete contributions, new facts, daring techniques, or mathematical formulations that define unsolved problems. I understand this attitude; basically all that is beautiful. To conquer a new truth is like seizing a star. Moreover, it gives the feeling of power or the intoxication of triumph, both of which suit the spirit of youth. In spite of that, I suggest that we imagine ourselves students

of Hellenic times and walk together through the gardens of Academe or the Lyceum while we discuss serenely some general matters of medicine.

PRE-EMINENCE OF SCIENTIFIC MEDICINE

That we are at a fascinating moment of the evolution of medicine is something that even the uninitiated observe: the advances achieved in this first half of our century are worth as much as all that was accumulated in many preceding centuries. Of course this prodigious advance could not have been attained without the work of those who preceded us. Present science already existed in the germ of the previous work; but the miracle of the seed does not at all lessen the majesty of the tree.

It was in this century that medicine ceased to be purely clinical, and anatomic comparison was no longer enough. A day came when detailed studies of organic function were required. To achieve them, physics and chemistry, biology and mathematics entered medicine, first timidly and then tumultuously, and with them came complex technics, precision instruments, and the rigors of mathematical analysis. It was the heyday of the laboratory and the beginning of a new era, the era of research. The so-called basic sciences came to change the traditional aspect of medicine, attempting to substitute scientific for empirical knowledge, and laboratory experiment for pure observation.

It is impossible to trace the exact limit that separates the two epochs. Never in history has it been possible to say where one age ends and another begins, and one must accept conventional boundaries. Even in the most radical changes, the ages superimpose or overlap, as happened with medieval and Renaissance medicine, when Galen continued to reign in physiology a century after Vesalius had begun his revolution in anatomy. If this happens in ages which are essentially opposed, as the medieval with its scholastic philosophy that became dogma, and the Renaissance with its scientific criterion that became free criticism, even greater difficulty exists in tracing the

starting point of the scientific and experimental medicine of our day.

The fact is that basically the difference is not essential but quantitative; medicine was already scientific earlier, especially that of the nineteenth century. One cannot ask for greater scientific exactness than that of Laemmec's comparison or of Claude Bernard's experiments. Science could not be more precise than it was in the hands of Pasteur, of Koch, and of Virchow, nor was it ever more disinterested and accurate than in Roentgen's experiments. It is not then, that our medicine is scientific and the other was not. The change comes rather from the fact that now it is not only a fragmentary aspect or an isolated field that is being transformed; all the fields of medicine are being attacked scientifically, all are being subjected to experimental methods, and in all, the basic sciences have entered to clarify problems.

GREAT CONTRIBUTIONS OF OUR TIME

No one could deny that the harvest has been extraordinary, not to say fantastic. If we limit ourselves solely to our field of cardiology, we see that in this half century cardiovascular radiology has been born and has attained the technical refinements of kymography, tomography, selective angiocardiology, and radiocinematography. Electrocardiography has been born, with its immense contribution, particularly in the field of coronary insufficiency and mechanical behavior due to hypertrophies or overloading. The fecund exploration of cardiac catheterization has been born, with all that it teaches with regard to pressures, output and flow, tissue respiration and metabolism. We see that almost all that is known of congenital, hypertensive, and pulmonary cardiopathies belongs to our epoch, as well as the knowledge of myocardial infarction, deficiency, and Chagas cardiopathies. We see that with us has been born the surgery of the heart, the mastery over cardio-aortic syphilis and bacterial endocarditis, the control of sustained rheumatic activity and the prevention of rheumatic carditis by means of antibiotics; that our arsenal has been

enriched with Fraenkel's strophanthine, Arnaud's ouabaine, Stohl's lanatosides, and all the gamut of hypotensive drugs, mercurial diuretics, vitamins, anticoagulant and antiarrhythmic medication. Why continue an interminable enumeration? The list would include the influence of hormones, the action of enzymes, and the role of electrolytes, all that world of new knowledge which has come to clarify causes and mechanisms in the chapter of diagnosis, and which has endowed us with effective arms in treatment and prevention.

Let the present-day contribution be placed on one side of the scales and on the other the contribution of the 50 preceding centuries, and it will be seen that there is no error in affirming that the recent harvest is superior to the old. If today one of the great cardiologists of the last century, Traube, Stokes, or Potain should come here to a Congress, his astonishment would know no bounds. He would begin by not understanding our technical language. What they could not even glimpse with all their wisdom and experience has today become an easy notion, within the grasp of any medical student.

SCIENTIFIC RESEARCH UNDER WAY

Their amazement at what has been accomplished in 2 or 3 generations would be infinitely greater if they gazed on what is being forged. The visceral pathology that they knew is beginning to be explained in terms of tissue pathology and then of cell pathology; as well as being specific entities, diseases are turning into systemic reactions; in the background of rheumatic fever appears the reaction of fibroblastic tissue; instead of single causes — germ, toxic product or deficiency — complex interactions, allergic shocks, and enzyme actions reveal themselves; behind the organic lesions appear metabolic disturbances, profound biochemical changes or alteration of the physical properties of a cell or a membrane which change its electric charge, its salt interchange, or its richness in ions. When we reach the level of the atom, matter and energy are confused; the limit

between the organic and the functional becomes blurred, and all the immense machine of the organism displays suffering even in its cells and its electrons when a disease sets in. To the astonishment of our visitors would be added the pleasure of seeing that their hypotheses now have validity as theories.

We who are present at these changes also see the progress with delight, but we begin to look with distress at what might be the medicine of tomorrow, the day when the investigations that are being carried on give out their answer. As in the dreams of the alchemists, we should not know what to do with such a medicine, transmuted and dehumanized, converted into a philosopher's stone.

THE ADVENT OF SPECIALTIES — PURE RESEARCH VS. CLINICAL RESEARCH

The natural result of this impressive mass of knowledge and of this technicalization of medicine, of this invasion of the physical, chemical and mathematical sciences, has been the birth of specialties. It is now impossible for one man to know, even in its essential aspects, all this world of medicine. It is impossible for him to follow its rapid transformation; impossible, too, for him to master all the technics of study, so varied and so complex. As a sign of the times, specialties have sprung up, which permit a man to concentrate on one field and study it thoroughly until he masters it. What was an effect of the vertiginous advance of science became afterward a causal factor of that progress.

The advantage of medical specialization can no longer be debated, either in the pragmatic aspect of the profession or as a factor for the advance of knowledge. Each specialty has carried out clinical investigation in its field and all may glory in having furnished a great mass of contributions.

A specialist's research, however, is soon exhausted if he works only as a clinician and technician, without having basic scientific training. The great answers will be formulated in the language of physics,

chemistry, and biology, supported by mathematical rigor. A conflict has arisen which appears more clearly each day, that of pure or basic research as opposed to applied clinical research. The "pure" scientists look on this latter with disdain as pragmatic and limited in its scope, and they even deny it the rank of science, claiming that it does not go much beyond empiric knowledge.

This is a grave error, which inhibits the collaboration between the two groups. Applied research may be as scientific as the other, though the two differ in their goals and their immediate results. It is true that disinterested research is that which usually gives the clue to the great scientific problems. It is true that Einstein's relativity theory made possible the study of atomic radiation and provided the basis for medication by radioactive isotopes, that Fleming's discovery made possible the manufacture of antibiotics and solved the treatment of infectious diseases, and that Planck's quantum theory is the truth which must some day explain the processes of oxidation in cell life and the transformation of chemical energy into electrical, — the basis of nervous activity, — or into mechanical, — the basis of muscular activity. But research applied to clinical medicine, though it is usually modest, is not therefore less noble, provided it is carried out with scientific method. The regulated experiment in the laboratory animal cannot be compared to the natural experiment provoked in man by disease. As long as the clinical investigator takes into consideration the numerous variables and does not fall into false schematizations, he can achieve experimentation as rigorous as that of the laboratory and of the same scientific value.

As proof of the foregoing, there are the extraordinary contributions which we owe to clinical investigation. Mellanby rightly asked what we should know of vitamins B₁, C or D, of insulin, thyroxin, and of the active principles of the liver and the stomach in pernicious anemia if experimentation had not been carried out by clinicians in the field of pathology.

One must then, react against the tendency observed in the younger generations to consider only laboratory investigation scientific and to look with disdain on clinical research, as if it were a kind of secondary value. It is one of the many fetishes that the man of study creates, forgetting that the scientific quality does not depend on the tools that are used, but rather on the method which is followed, and that merit does not rest on the method, however scientific it may be, but on the creative idea. There is much laboratory research which is worth nothing because it is empty of content. Simmel has made the accusation that we have suffered for some time from a fetishist cult of method and we consider any contribution very valuable because of the simple fact that the method is impeccable, and there are even studies that justify the caustic phrase of Chesterton, that "much research reminds one of a blind man looking in a dark room for a black hat that is not there."

In reality, the two kinds of research are not strangers, and should, on the contrary, complement each other. Studies in the field of the normal may be made at the same time as those in the field of pathology; observation mates well with experimentation, and the contribution of analysis are solely the necessary stage by which to arrive at the work of synthesis.

SCIENTIFIC TRAINING OF THE SPECIALIST

For the specialists, cardiologists in our case, however, to be able to participate in this joint movement, they must have a sound scientific training. This should be an indispensable requisite today. It is no longer enough to be good clinicians in the traditional sense of the word. That may be well for the practical ends of the profession but the cardiology of today is too much inlaid with exact sciences to be mastered without a solid scientific foundation. "You cannot become so much as a modest engineer here until you have first done the mathematics and the physics from which any true understanding of science must spring. You cannot be a specialist until

you are a scientist," said Jacob Bronowsky to his students. We should say exactly the same today to those who wish to specialize in our field. "*You cannot be specialists in Cardiology if you are not at the same time clinicians and scientists.*"

To know traditional clinical medicine, to master the usual technics, to be informed of current theories, this is enough to make a practical cardiologist, but not a specialist in cardiology. The former are clinicians in the noble sense of the word, but they are clinicians of circumscribed activity, of limited range, very useful in the social community, but less so in the scientific community. The true specialists, on the other hand, are those who can advance the knowledge in their field.

This requirement that the specialist be a scientist as well as a clinician does not imply any scorn for traditional clinical medicine. The place of the latter is different, very high and very noble. I have referred to the specialist fitted for investigation, but I do not seek to have all cardiologists consecrated to it. I think, like Sir John Parkinson, that in every first class hospital a place of honor beside the scientists should be kept for the superior clinicians, those who are just that, clinicians of knowledge and experience, in whose hands the finest traditions are preserved and the trust and safety of the patients repose. They too live their special science, which is to keep men alike. They know that with a certain dose of science, and another of experience, a man is saved.

SCIENCE VS. HUMANISM

When the requisite of two-fold training is fulfilled by the specialists, there will arise even more seriously the problem already mentioned in relation to the great development of sciences: I speak of their divorce from humanism. And the more the specialist cultivates his scientific side, the greater will be the risk. There will appear in him the tendency to overspecialization, which threatens to destroy the criterion of unity in science and which will make im-

minent the divorce from humanism.. There is no worse form of spiritual mutilation in a physician than the lack of humanistic culture. He who lacks it may be a great technician in his craft, may be a learned man in his science, but in all else he cannot but be a barbarian, wholly ignorant of that which gives human understanding and sets the values of the moral world. And that, in a cardiologist, is unforgivable.

Humanism is not a luxury, nor a refinement of scholars who have time to waste in frivolities disguised as spiritual satisfactions. Humanism means culture, understanding of man and his aspirations and miseries; — evaluation of what is good, what is beautiful, and what is just in life; the setting of the standards that rule our internal world; the eagerness to excel which leads us, in the philosopher's phase to "match life with thought." The pursuit of is something else; it makes us strong but not better. Therefore the more learned the physician is, the more cultured he should be.

The humanists of the Renaissance, sated with the barbarous world in which they lived socially and with the obscure intellectual world of the Middle Ages, produced the great movement of the liberation of conscience. They reascended the river of history to seek contact with Greek culture; they sought inspiration in the great classics of literature and philosophy and learned to free themselves from scholastic dogmatism, utilizing reason. They realized that the major interest of man is that of looking at man, in order to know and understand him. Their vision then attained the breadth of the world and they could proudly shout Terence's phrase: "*homo sum, humani nihil a me alienum puto.*"

The world then experienced a miraculous hour that will never again be repeated in history, for there will never again be the happy conjunction of circumstances that engendered it. In that miraculous hour, Leonardi da Vinci exemplifies the prodigy, showing what is "a man capable of whatever a human creature can do"; Copernicus

makes our world descend from its geocentric throne and sends it spinning humbly in its orbit; Vesalius initiates the revolution of medicine against the authority of texts; Michael Angelo creates another world in the Sistine Chapel, and makes marble speak: "*parla e per che non parla?*"; America rises from the ocean, divined by Columbus; and Asia is sketched on the horizon, announced by Marco Polo and confirmed by Vasco da Gama; and the printing press, the great renewer, undertakes to diffuse throughout the world this marvelous conjunction of rebellions against medieval life and scholastic thought.

It was this splendid humanism which engendered our modern world, which in the intellectual realm launched us in search of truth, questioning nature herself; and in the artistic aspect inculcated in us the love of beauty, free from sin; which in the spiritual realm infused in us the aspiration to be universal men, and which, revindicated in the moral realm, our higher dignity as men.

HUMANISM AND MEDICINE

It is this precious heritage that has given the physician through the ages, his superior position and his authority over his patients, making him a counsellor and guide, not only a physician. His culture has permitted him the understanding of the human problem that is enclosed in each clinical case, and understanding means sympathy. The physician is not a mechanic who is to repair a sick organism as one repairs a machine that is out of order. He is a man who looks at another man, with eagerness to help, offering what he has, a little of science and a great deal of understanding and sympathy. Why should we let this fundamental human aspect be lost? It comes not from our science but from deeper roots, from our culture, which sets us a duty, and from our sensibility, which translates, to paraphrase Peguy, an impulse of the soul toward goodness.

It is useless for the skeptic to smile. He thinks that with his technic and his science, he needs nothing more to master cardiolo-

ogy; but he will be incomplete, a cripple, if he is not also rich in culture, deeply impregnated with humanism, a humanism rooted before he reaches the University, continued through all his medical studies, and prolonged afterward indefinitely throughout his whole life.

The skeptic's smile might perhaps be justified if it were argued that the scientist and the humanist adopt at times opposed and in a way antithetic positions — the humanist with his face turned toward the remote past, the scientist living solely in the present minute, avid of the latest finding, uninterested in the already surpassed knowledge of yesterday. These extreme situations fortunately are not the rule. The scientist who proceeded thus would prove that he does not deserve the name if he does not know that the science of today lacks foundation and meaning without that of yesterday, for it, according to the expression of Sarton, "is the only human activity which is truly cumulative and progressive." No, fortunately, these two conquests of man, science and culture, are neither opposed nor mutually exclusive; rather, they fraternize and complete each other harmoniously when man joins talent and sensibility.

THE HUMANISM OF OUR AGE

Faced by this situation, we may properly ask what is the humanism that is commended as a complement to scientific education. Is it classical humanism, that which cultivates the dead languages, glosses the Greek and Latin classics, and probes the history of philosophical thought?

It is not that, certainly. It would be a beautiful ideal if scientists could attain such a refinement of culture, recreating the archetype of the universal man. That has become impossible in our vertiginous age. There no longer exists the omnivalent man of that stature, such as was Leonardo, who with equal competence prepared a *Treatise of Anatomy* in 30 volumes, painted the *Last Supper*, or worked out calculations so that man could fly, or such as were Alberti, Fracastoro, or Erasmus or so many others who could equally well hold a chair of med-

icine or one of languages or one of philosophy.

Our age no longer permits such omnivalence. The humanism we pursue is not the traditional nostalgic one, as Lain Entralgo calls it, that looks only backward. There is room for a humanism of our time, dynamic and effective. "In the Beginning was the Word," says Holy Gospel. It is the same in our case; the root of present humanism must be the knowledge of the principal living languages. Through them we shall be able to look at the thought of races and countries which are not ours and drink information at the very springs. We shall receive in passing the lesson in humility that science and culture do not end at the boundaries of our country. The whole world seethes, the whole world works and creates. How should we go on, in isolation, ignorant of ourselves, at once owners and prisoners of our own language? For scientific ends this constitutes a limitation of ignorance, and for human ends, it pushes us toward incomprehension, the first form of scorn. Already in the middle of the eighteenth century S  nac protested: "National prejudice," he said, "dominates even the scientists; many imagine that genius and knowledge are exclusive to their country and that the other nations are condemned by nature to sterility. This vanity may perhaps be useful to the States," he added, "but it is something that degrades the spirit." Because of all this I think that in the world of intelligence one's own language does not suffice and if a scientist is to be cultured, he should begin by cultivating languages.

Since it is an eternal aspiration, culture is not a universal and static thing; it changes and shapes itself according to the time and the place. Hence the knowledge of history is an essential requisite for contemporary humanism, broad history, of peoples, of civilization and of men's thought. We physicians are interested moreover, decisively, in the history of our specialty, which shows us the evolution of medical doctrines. Jacobi said to his students: "For as without the knowledge of

the history of your country you can not understand its structure, or without that of the embryo the full development of the body, so without that of your science and art you will not be a citizen in your profession."

In compliance with the duty imposed by culture, man must afterward immerse himself in the world in which he lives, feeling himself not a stranger, nor even a pure spectator of the social reality that surrounds him. He may be barely an atom of this world, if you wish, but alive and vibrant, a creative energy of his time; for one cannot conceive culture divorced from life itself, nor genuine humanism uninterested in the problems of man.

And when one has attained all this, the knowledge of languages and of history in its broadest sense, when one recognizes social reality and is interested in the hour in which one is living, the humanism of our age would be sad and dull if man did not adorn his spirit with selected readings, with frequent contact with the modern classics, with love of beauty — in word, music, or plastic are — and with reflection on the eternal themes of conduct — duty, love, goodness — all forms of sublimating the soul in the face of the hard reality of living. The march along these harsh paths of perfection leads up to a point, the same at which the classic humanists arrived, that of knowing that the highest concern of man must be man himself, in order to study and understand him, with all that this implies of interest in his life and respect for his creative effort.

This is the humanism which we must foment in our age, a humanism the deeper and more passionate, the greater the limitation imposed by an exigent and unilateral scientific education. This is the indispensable prescription for the specialist of today, that which teaches that what is important is not to know but to understand; to understand man, to understand the world, to understand one's position in life; that which, moreover, aids him in developing the gift of sympathy with which he

must approach the patient. As by a catalytic effect, humanism projected into science invites man to flee from selfish isolation and impells him to work nobly in collaboration at the same time as it offers him a formula to counteract, in large part, the harmful tendencies that rise from specialization — those of the scientist who isolates himself from other men, the specialty that separates itself from other specialties, the medicine which separates itself from other sciences, and the science which divorces itself from culture.

HUMANISM, A CORRECTIVE FOR SCIENTIFIC DEFORMITY

The situation of isolation and divorce is accentuated more each day. The younger generation seems not to have noticed it. I have been able to watch it at close quarters, because I have spent many years dedicated to the training of specialists in cardiology. In almost all of them one notes a passionate eagerness to master the technic rather than to possess themselves of the method, and the cult of the apparatus is more easily developed in them than a passion for scientific ideas. It is the characteristic error of our epoch which Samuel Ramos points out, that of raising the means to the rank of an end. "Before the marvelous results of technic," he says, "the scientist falls on his knees to her, forgetting that she is a simple means." On the other hand, general theories matter less to the young, and the problems of culture are wont to interest still less.

It is possible that the smile of the skeptic will appear again as he thinks that there is exaggeration in this, and that culture, though estimable, is more of an adornment than a necessity for the medical specialist. I, on the other hand, consider it as indispensable as scientific discipline itself, and because of this I say with complete conviction to all my students: *you cannot be good cardiologists as long as you are not cultured men.* This is a new way of repeating the old saying of Paracelsus in the sixteenth century: "It is a gross thing for a physician to call himself a physician and

find himself empty of philosophy and know nothing of it."

The humanist spirit imbued in the scientist obliges him to flee from pure pragmatism as a philosophy of medicine and forces him not to be content with facts without going deeply into their explanation, and not to let himself stick fast in accumulated data without seeking the theory which makes a whole of them. This attitude helps to clear up one of the great problems of our present medicine, which is fragmentary, disarticulated, rich in facts, and poor in theories. In earlier times there were too many theories and a lack of support by facts. Today when we have learned the lesson of "*saper vedere*," today we have an excess of facts and few general theories. Little analytical men abound and we lack superior men who can work out syntheses, whereas the true scientific spirit rests precisely upon alternating the two things. "Analytical investigations," says Sarton, "without synthetic attempts must necessarily degenerate into crude empiricism; synthetic construction without periodic experimental contact must necessarily degenerate into a sterile dogmatism."

The humanistic spirit instilled into the scientist keeps him from reposing a mythical faith in science, or believing it to be of absolute value, and helps him to understand, humbly, its relativity, and to admit that science will never cover the entire field of medicine; that however great, however excessive its progress may be, there will always be a very broad field for the empiricism of knowledge, for the "chaste observation" of our ancestors. If all organic reactions could one day come to be measured,

recorded, and even reproduced in the laboratory, there would always remain outside the rigorous control of physics and chemistry the psychic reactions of the patient, his sufferings and his anguish, as would the obscure genetic factor which has governed us since the beginning of time.

If it is not to be supposed that all this will fit within the rigidity of a mathematical formula, and if he who suffers is a man and not a machine or a laboratory retort, there will always be a place for the clinician to give voice to an opinion and lead medicine in the future as he has led it until now. Therefore he should not abandon his high human values and he should stubbornly enrich his culture. If because of the exigency of the age, his specialization turns toward pure science, his humanism will help him to bow with humility before the immensity of what he does not know. Shortly before his death, Newton, one of the giants of scientific thought, said sadly: "I do not know what I may appear to the world, but to myself I seem to have been only like a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me."

I think it is time to stop. While we walked through the garden of Academe, discussing these general matters of medicine, the afternoon has ended. The sun has set beside the Pireus and there is only to be seen the brightness, half rose and half gold, of the sacred hill of the Acropolis. By good fortune this light is enough to guide our steps.

The Delaware Valley Chapter of the American Medical Writers' Association will hold its annual contest in medical writing for interns and residents early in 1960.

This contest is an effort to stimulate interest in better medical writing. Three prizes are awarded. Rules and regulations will be published in the near future. All manuscripts will have to be submitted by April 1, 1960.

THE ROLE OF THE PHYSICIAN

IN DIABETES MELLITUS:*

Oral Medication vs Insulin

ANTHONY M. SINDONI, JR., M.D.**

The role of the medical doctor in Diabetes Mellitus is of vital importance.

If you observe carefully the medical literature and the accomplishments of the various research centers throughout the world, you will note that the increased progress made in helping to solve the mystery of diseases is far too vast or complicated for one person to grasp. Such a situation has caused many investigators to select their particular branch of study so as to be able to delve more deeply into its mechanism. The result has been to give them a clearer and better understanding of their own course of studies. Their newer revelations or discoveries, however, have created more problems and specialties.

An increased array of laboratory specialists — such as radiologists, bacteriologists, micro-biologists, virologists, physiologists, hematologists and chemists — have already made themselves evident. Many physicians are acquiring a better understanding of certain disease processes by keeping abreast of the studies of such laboratory workers. Some classify themselves according to their particular clinical field of study or specialty based upon a disease or group of diseases —

such as communicable or tropical diseases, cancer, tuberculosis and public health — or upon the diseased organ or organs and areas of the body involved or affected, i.e., disorders of the gastro-intestinal tract, respiratory (lungs) system, kidneys, joints, skin, heart and circulatory system, glands, eyes, as also nervous system, blood and metabolism. There are also physicians who restrict their practice to diseases which are based upon the age period of life — children (pediatrics) and old age (geriatrics). Another important phase of medical specialty is physio-therapy or physical medicine as also anesthesiology, space, aviation and submarine medicine.

In the surgical field we find a similar situation of specialties: The surgeon who restricts his work to those disorders of the brain and spinal cord, chest and lungs, bones, female pelvic organs, kidneys, bladder and prostate, rectum, heart and blood vessels, nose, ear, throat; also the one who repairs and corrects deformities (plastic surgeon), and many others.

Unfortunately, most of the combined accomplishments or results of the various laboratory investigators and the specialists have been too voluminous and complicated for the busy general practitioner to grasp and utilize for the benefit of mankind. In due time, however, we expect to correct this

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situation by assembling and integrating these findings, simplifying their clinical application, and making them easily available to the physician. Then, only, will man receive the maximum benefits of the newer medical achievements.

Incidence of Diabetes Mellitus

Since time and space does not permit me to delve more deeply into the general investigative phase of medicine, I will try to restrict my remarks to one of the many aspects of medicine — our modern conception of diabetes mellitus.

To treat an ailment or condition such as diabetes mellitus and its associated disorders with greater success, the physician ought to be widely informed of its incidence, causes, symptoms, mode of diagnosis, pathology, complications, prognosis and treatment.

In perusing the literature on diabetes, especially its incidence in our country as well as throughout the world, one will note that diabetes constitutes a major health problem. According to Wilkerson,¹ in 1953 it ranked eighth as a cause of death in the United States. It is also of interest to note that in 1950 approximately 100,000 new cases of diabetes were discovered, while in 1954 there were approximately 2,000,000 known cases of living diabetics.¹

What is of great concern to the medical profession according to Wilkerson is the one million or more unrecognized cases which do not have the benefit of adequate medical care. This condition becomes more serious when one realizes that the proportion of unrecognized diabetics continues to rise. It is estimated that the diabetic population is increasing at a rate twice that of our total population.

Based upon statistical observations, it is anticipated that within another five year period diabetes (including associated vascular diseases) will rank third as a cause of death for the entire population of the United States. If the mortality continues to rise, as based upon the present rate, it is predicted that by 1980, deaths from dia-

betes will be surpassed only by deaths from heart disease.²

Complications

To a measurable degree our modern therapy has conquered diabetic coma and increased the life expectancy of a diabetic, but the circulatory complications are graver, affecting the usefulness of man either partially or completely, as well as taking his life. These vascular complications affect the most vital parts of a diabetic's body — his eyes, heart, kidneys and lower extremities.

In our Metabolic Ward where the patients of the lower income group are cared for, slightly less than one-half of the patients admitted suffered from vascular degeneration.

The true etiology of the vascular conditions associated with diabetes is still unknown. There are many theories advanced by the various schools of thought to help substantiate their clinical findings of the close association of vascular degeneration with diabetes and diet. Since this is a controversial issue, we can say only that we are still in a quandary concerning the true relationship of the associated vascular diseases in diabetes to hyperglycemia. But the real danger that faces the individual with diabetes today is vascular complications.

ETIOLOGY

There appear to be diversified opinions concerning the factors in the causation of diabetes. This lack of unity of thought is probably based upon the varied methods employed by the laboratory workers in inducing diabetes by affecting pancreatic islets and its insulin mechanism.

In animal experiments the pancreas revealed definite pathological changes in the beta cells of islets as the responsible site for the disturbances in the carbohydrate metabolism. But when observations were made in the human diabetics, it was found that this was not wholly true, because in certain cases there existed a lack of correlation between the islet or beta cells change and hyperglycemia.

It is sufficient to say that the true cause of diabetes is unknown. We believe, however, that diabetes, a disturbance of the carbohydrate metabolism, is brought about by a disturbance in the insulin mechanism. From all clinical evidence we are also safe in making the statement that the immediate cause of diabetes is related to a deficiency of endogenous insulin.

There are certain conditions which have been observed to favor the inception of diabetes. Heredity is certainly a contributory factor.

Age apparently plays a significant role. It was formerly the belief of many persons that diabetes was a condition of the aged. The increasing incidence of diabetes among children apparently has disproved this belief. More than one fourth of the people acquire diabetes under fifty years of age, and one half between the ages of fifty and sixty-four years. Thus, diabetes appears from all observations to be most prevalent in people over 40 years of age.

No sex differences were noted in children, adolescents or young adults as to the prevalence of diabetes. After 30 years of age, however, it became more prevalent in the females, twice the frequency being noted in females between 45 and 65 years of age.

The onset of menopause apparently plays a large role in the increased incidence of diabetes in females.

The famous statement, "Fair, fat and forty," once made by an eminent surgeon concerning the condition of the human being in a period of life when most diseases or abnormalities make their inception, still holds true.

Diseases of liver and biliary tract have been observed in 25-30 percent of the patients before the occurrence of diabetes.

Various disturbances of the endocrine glands, such as the thyroid, pituitary, and the adrenal, apparently play a role in the causation of hyperglycemia in some cases.

Trauma and infections are not uncommon factors precipitating or aggravating diabetes. "Traumatic diabetes" is occasionally spoken of in persons who develop diabetes following an accident and has presented many legal conflicts. Such a term is misleading and incorrect, for experimentation indicates that it probably doesn't exist. That emotional factors often play a role in aggravating or precipitating diabetes becomes more apparent when one observes the increased incidence of diabetes in patients who have had financial or social setbacks.³

In summarizing the factors which help to bring about diabetes, we cannot help asking ourselves a vital question when we are confronted with a child or apparently normal looking young adult with newly discovered diabetes—"Why did she or he develop diabetes?" I can say only that I do not know; nor do I know exactly why anyone develops it.

Symptoms

That the busy physician occasionally overlooks the so-called asymptomatic diabetic becomes apparent when the first inkling of diabetes is the discovery of sugar in the urine during a routine examination in the course of some illness, or for a life insurance policy.

Of all the diseases or disturbances, I believe diabetes is the most treacherous because it is free from pain, produces no fever, and is not contagious.

The "mild" cases or those cases without symptoms can be found only after a thorough examination. The urine may reveal sugar only after a high carbohydrate meal. Fortunately, in most instances there occur cardinal symptoms, as increased thirst brought about by the increased blood sugar concentrations, causing dryness of the tissues, especially in the mucous membranes of the mouth.⁴ This dryness is aggravated by increased intake of sugar-containing foods. Increased urination and appetite are important symptoms too, as is nocturia.

The polyuria is often in proportion to the thirst.

These symptoms are rarely present when the blood sugar level is less than 250 mg. It is interesting to note, however, that there are a number of patients with an elevated blood sugar without increased thirst, urination, or weight loss.

The increased urination frequently leads to dehydration of the body which often gives a drawn appearance. Some clinicians are of the belief that the dehydration may be a contributory factor to the "cramps" in the legs at night.³

In many instances the weight loss may be rapid and marked. The patient cannot understand why he is losing weight with the increased appetite and food intake. The failure to utilize sugar causes a gradual waste, first in body fat, then in the muscles. This condition is gradually followed by muscular and general weakness, aching, and sensation of heaviness of the legs, which becomes most marked when one attempts to climb stairs or perform physical exertion. With the gradual impairment of the carbohydrate metabolism, there occurs an increase in the symptoms. The patient becomes depressed and lacks ambition.

Symptoms as related to organs or areas involved³

Nerves: The neurologic symptoms or signs which manifest themselves, such as tingling and numbness of the legs and feet, are often the onset of sciatica which has not infrequently caused the patient to seek medical advice. Oftentime the pain is of such severity, and the symptom of diabetes so mild, that it is not uncommon to overlook the underlying factor, diabetes. Frequently associated with the neuritis is a general depression, as well as the loss of sexual libido and potency which at times becomes serious enough to bring the patient to seek medical aid.

Eyes: It is not uncommon to observe visual changes as early signs of diabetes. Refractory changes have been noted in 2 to 6 percent of the patients with diabetes.

Cataract and retinopathy have also been observed to occur in patients with asymptomatic diabetes. The extremely high incidence (8.4 percent) of diabetes among the blind is another sign of their close relationship. Retrobulbar neuritis and diplopia (6th nerve neuritis) are not infrequently seen in diabetes. For such reasons the ophthalmologist has frequently been able to detect diabetes before the patient is aware of its presence.

Skin: Even though observations by a few investigators have revealed no difference in the incidence of boils and carbuncles between diabetics and non-diabetics, it is my belief that the onset of diabetes is not uncommonly precipitated by the above skin conditions. We have seen patients admitted to our metabolic department in diabetic acidosis precipitated by carbuncles. True the incidence of these skin lesions may be the same in the diabetic and non-diabetic, but in a diabetic it may prove serious or even fatal. We therefore advise examination for diabetes in all such cases.

In many instances skin disturbances, either general or local pruritis especially in the region of the genitalia, may be the first sign of diabetes. We have observed an increasing number of diabetes in women whose only sign was a vulva pruritis. The latter condition is frequently seen in the young as well as in the old women. We have seen such conditions in the older women diagnosed as senile vaginitis.

Renal: Since Kimmellstiel-Wilson Syndrome is frequently observed in mild diabetes, it is not uncommon to observe a patient with renal involvement seek medical advice and overlook the associated disorder, diabetes. Glucose tolerance test performed in patients with mild to severe albuminuria reveal that diabetes was present in a small percentage of the cases.

Dental affections: It is often the duty of the dentist to suspect diabetes in the absence of symptoms in patients who seek oral treatment because of painful gum abscesses

or pyorrhetic gums as well as loose and sensitive teeth.⁵

Vascular or Arteriosclerotic Manifestations: The incidence of coronary disease in diabetes is twice that of non-diabetics. It is not uncommon to observe patients with marked cardiac symptoms with asymptomatic diabetes. Therefore it should be the routine to suspect diabetes in all cases of coronary artery disease.

Suspicion of diabetes in every case of peripheral artery vascular disease should not be overlooked. The earliest signs of vascular disease are not infrequently present in the feet. Bell⁶ claims that on the basis of arteriosclerosis alone, gangrene occurs 40 times more frequently in diabetics than in non-diabetics.

DIAGNOSIS

The diagnosis of diabetes is a simple matter in most cases and can be made from the symptoms — increased thirst, appetite and weight loss.

There are cases of diabetes, however, that are mild and present no symptoms of diabetes except glycosuria.

Even in those cases of asymptomatic diabetes with negative urine for sugar, when the patient is overweight but has a diabetic background, diabetes should be suspected.

Women who have given birth to babies above the average weight should not escape the suspicious diagnosis of diabetes.

There are cases of slight hyperglycemia following cerebral injury which are often diagnosed as diabetes. Such cases should be carefully examined for symptoms as well as given a thorough laboratory examination.

Simple tests in Diabetes³

Practical laboratory examinations of urine for sugar, proteinuria and ketosis are not time-consuming and can easily be performed by the physician in his office. The materials necessary to make these newer simple tests are available at the various retail pharmaceutical stores.

The value of these urine examinations is apparent when it is realized that there are many persons with positive laboratory findings who present no significant symptoms or signs of diabetes. When urine is positive for sugar, ketone bodies, or albumin, the patient should be subject to detailed laboratory examinations of the blood such as the glucose or meal tolerance tests.

MODERN THERAPY

Oral "Substitute" for Insulin

Today the medical profession has approved three oral preparations: Orinase (Tolbutamide) (Upjohn Co.); Diabinese (Chlorpropamide) (Charles Pfizer and Co.) and DBI (Phenformin), a chemical compound synthesized by the Arlington-Funk Laboratories, Division, U. S. Vitamin Corporation. However, none of these are true substitutes for insulin. The first product, Orinase (Tolbutamide), is the result of an investigation which began in 1942 and continued to 1955 when its results with diabetic patients were more apparent. Since this latter date, the tablet has been released by the Food and Drug Administration for the physician to prescribe for his patients in the treatment of diabetes. It has been claimed by the manufacturer that over 500,000 patients are upon Orinase therapy with apparent success.

A more recent oral hypoglycemia tablet, Diabinese (Chlorpropamide) has also been released (by Pfizer & Co.) for physicians to prescribe in the treatment of diabetes. It has the same indications as Orinase, but it is somewhat more potent, requiring less dosage. Another newer drug called DBI (Phenformin) has also been released in the treatment of diabetes.

The future of the tablet treatment will depend much upon the co-operation of the patient with the doctor and faithfulness in carrying out the doctor's orders.

There are patients who will respond favorably to the drugs and may be able to continue its use for a variable period. In

such patients the tablets may have proved of such value that some of them may be able to discontinue their use and control the diabetes with diet alone. This has already occurred in a small percentage of our patients.

THE FUTURE FOR INSULIN THERAPY

Insulin therapy however is still the "Rock of Gibraltar" in the treatment of diabetes; for without it, the life of a diabetic is insecure.³ It is a hormone and supplies the deficiency which is responsible for the diabetic condition. Every diabetic should know the types of insulin, how to sterilize a syringe, a needle, the measure of insulin in units or dose on the syringe; where, how, and when to inject; signs and symptoms of insulin reactions or shock; and know how to avoid and treat them, because he will sooner or later require insulin, especially when the diabetes becomes aggravated or complicated by infections, surgical conditions, or coma.

Since diet and insulin are essentially the two forms of therapy (excluding for the moment the "oral" substitutes) there seems to be some controversy as to their methods of application. Although most physicians, today, are in agreement as to diet-therapy; there is still much disagreement in the application of insulin.

When insulin therapy made its inception in the treatment of diabetes, all physicians were practically in agreement as to its application. They accomplished their immediate goal—returned the diabetic to the ranks of a useful citizen—but with little regard to the prevention of accelerated vascular complications.

The increased incidence of these latter conditions, however, has created newer problems for the physician in diabetic therapy. Are we, as physicians, treating our diabetic patients too vigorously with insulin in the hope of warding off or decelerating the onset of premature vascular degeneration? Should the laboratory findings—reduction of hyperglycemia to that of the level of the normal or non-diabetic's 80-120 mg.%—

be the sole control in our therapy of diabetes?⁷

Avoidance of Premature Vascular Degeneration?

Since the true etiology of premature arteriosclerosis in diabetes is unknown, and the results of our statistical and clinical survey revealed that "(a) the apparent known duration of diabetes plays no role in the incidence of vascular complications; (b) that there is no relationship between blood sugar levels and complications; (c) and that there is no relationship between the average insulin dose and vascular complications," it must follow that the correct therapy for the prevention of these degenerative disorders associated with diabetes is still unknown.⁷

In view of the absence of the true etiology of diabetes and the possibility of multiple etiological factors, we ought to try to individualize our therapy—reduce the blood sugar to the compatible level with the aid of insulin or one of the oral tablets, or both if necessary.⁷

I cannot be too strong in my insistence upon the foregoing statement; for insulin, insofar as we know today, is the only assured protection for all diabetics.

CONCLUSION

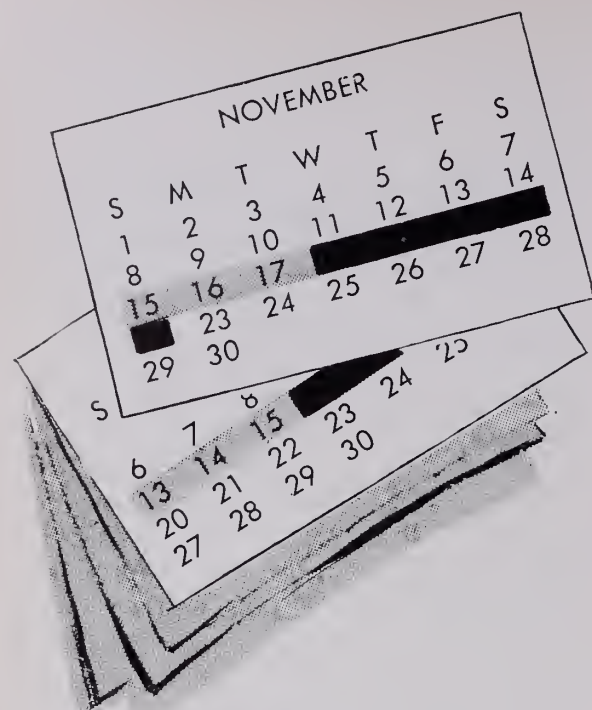
In conclusion, we may add that today no sacrifice is too great to help combat the increasing prevalence or premature arteriosclerosis in diabetes. This can be accomplished by establishing medical research centers and co-ordinating the various branches of medicine throughout the country and the world.

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DYSMENORRHEA AND

O. N. STERN, M.D.**
H. KEITH FISCHER, M.D.
LAURENCE L. FITCHETT, M.D.
ABRAHAM S. RAKOFF, M.D.



Chairman Stern: Tonight we are fortunate in having with us three representatives that I think will discuss this subject of dysmenorrhea very adequately. As you know, dysmenorrhea is a symptom complex that has been a problem to womenfolk ever since the beginning of historical times. In fact, in our Egyptian and early Persian literature there is quite a lot said about this painful monthly occurrence in women. Since our women have become more free from their usual household activities and have entered into the world of business, we find that next to the common cold, dysmenorrhea causes more loss of hours than possibly any other condition. It is impossible to adequately decide or to evaluate what this loss really is.

Two Classifications

Now, the dysmenorrhea or the symptom complex which we call dysmenorrhea is divided into two classifications, namely, that

of primary dysmenorrhea, which is an idiopathic condition in which as far as the condition is concerned, no clinical findings can be found. In other words, nothing can be found on pelvic examination, or physical examination. The second type of dysmenorrhea, is so-called secondary dysmenorrhea, which is usually associated with some pathological condition such as residual pelvic inflammatory disease, endometriosis, the congestive fibrosis syndrome of Taylor, or what you may.

The exact mechanism of what causes dysmenorrhea is still a question. As Osler once said, any disease that has numerous cures is not clearly understood and we do not really have a cure. That is true of dysmenorrhea. We can think of many things that can cause dysmenorrhea, namely, cervical obstruction. In fact, McKenzie in Scotland once wrote that there is no dysmenorrhea without an obstruction to the cervical canal. This is a questionable fact because we know that usually even in many of these patients that have dysmenorrhea,

*Panel discussion presented at the annual meeting of the Medical Society of Delaware, Wilmington, October, 1957. The editor assumes full responsibility for any errors inasmuch as the authors did not receive galley proof.

**Moderator of Panel.

EMENSTRUAL TENSION*

● Premenstrual tension and dysmenorrhea frequently are seen in everyday practice. The majority of these patients can be treated successfully by the general practitioner after careful consideration of all factors in the individual case. A few obviously require the specialized care of a psychiatrist, endocrinologist, or surgeon. Sometimes it is difficult to determine which of these specialists is indicated.

uterine sound passes without difficulty up to the fundus.

Secondly, we have the question of hypoplasia of the uterus. Even though dysmenorrhea does occur in many cases of hypoplasia, we know a lot of women with hypoplasia that do not have dysmenorrhea.

Finally, there is a question of the hormonal balance between estrogen and progesterone. It is known that estrogen is a vasodilator and progesterone is a vasoconstrictor, and it is thought that possibly in a lot of these conditions that progesterone overrides the estrogenic level and causes a predominance of vasoconstriction in the terminal arterioles. No matter what the cause is, the treatment at the present time is the important factor, and the treatment has many facets. And these facets I think might well be introduced by introducing Dr. Fitchett of the staff of the Milford General Hospital, who will discuss this problem from the viewpoint of the General Practitioner who primarily sees these patients. Dr. Fitchett.

The General Practitioner's Viewpoint

Dr. Laurence L. Fitchett: Mr. President, guests, members of the Society.

The problem of dysmenorrhea, including premenstrual tension, is familiar to all of us. As a syndrome of unpleasant symptoms, frequently distressing enough to require medical attention, it is often met with in our offices. It can, and frequently does, have a direct bearing on her industrial efficiency if the woman is employed, and on her community and domestic relationships. The very success of her marriage may be threatened by it.

The symptoms of premenstrual tension may be so mild as to be virtually unnoticed by the majority of women. When severe enough to interfere with her well being and the performance of her usual daily tasks, premenstrual tension becomes a medical problem. The syndrome is recurrent, begins two to twelve days before the onset of menstruation and complaints may include:

1. Nervousness, emotional instability, irritability.
2. Depression.
3. Headache, backache, aching in the thighs.
4. Swollen tender breasts and abdominal puffing.
5. Edema.
6. Nausea and gastrointestinal upsets.

In any specific individual the pattern is surprisingly consistent with each recurrence. Oftimes, anticipation of the apparently inevitable distress is a major element in adding to her discomfort.

The syndrome is a complex one and more than one etiological mechanism is involved. I will mention only three. The retention of water and electrolytes is certainly responsible for many symptoms. Others believe that an allergy, possibly to ovarian steroids, often causes some of the symptoms by increasing vascular congestion. Certainly the background factors of emotional instability or immaturity often present, will aggravate and intensify symptoms.

A thorough understanding of the problems involved is a prerequisite in the proper handling of each case. A good history is a must, and is often most revealing. A sympathetic attitude, with reassurance that her complaints have a truly organic basis, and are not just the result of "nerves" is often immensely relieving to the patient. Medication should be simple, as inexpensive as possible, free from disturbing side effects and, most important, effective.

Methods of Therapy

Possibly the most widely used method of therapy attempts to rid the body of excess fluid. This fluid amounts to at least two pounds in a person with symptoms of premenstrual tension and to over five pounds in an individual with severe symptoms. A low salt diet is often not a practical solution for the busy woman who has little time for special dietary care for herself. Ammonium chloride is not always well tolerated, although when it is, it is often successful. It is given in one gram doses t.i.d.,

for ten to twelve days before the period. Diamox, 1 tablet daily before breakfast for a similar period, is an effective diuretic in this condition and is easier to take than the ammonium chloride.

Another useful preparation in this group is bromaleate, known by the trade name of Neo Bromth, each 80 mg. tablet containing 50 mg. of pamabrom, a theophylline diuretic, and 30 mg. of the anti-histamine pyrilamine maleate. With this combination of drugs an attempt is made to rid the patient of her edema fluid and to treat the allergy that may be a factor in the symptomatology. Given in doses of two tablets morning and night at the onset of symptoms, treatment covers usually two to six days before each period.

If these methods are not entirely successful, and apprehension, tension and anti-social problems seem dominant, then a tranquilizing agent may be used. Frequently, stigmata of endocrine dysfunction are present, such as scanty menstruation or hypermenorrhea and the use of progesterone or androgen may be indicated. The other members of the panel will discuss the use of these drugs and the various other procedures that are available. No one single approach will do for all patients; each woman will have to be individually treated. But help is available for the majority through their family doctor. The remainder, those difficult to diagnose or those presenting special problems, may still be helped by their referral to the proper specialist.

The woman with dysmenorrhea presents a somewhat similar, challenging problem to the practicing physician. I shall confine my remarks to what some term primary dysmenorrhea. These cases all give the history of having had difficulty since the menarche, whereas secondary dysmenorrhea usually occurs after some years of normal menstruation and is associated with pelvic pathology.

Actually, distinction between primary and secondary, organic or psychogenic types is inconclusive. Even when menstrual disturbances have been medically or surgically corrected there may be no proof that the

origin was not emotional or that any lesion was sufficient to provoke the pain. Conversely it is known that even when pelvic disorders are not demonstrable, they may still exist.

Emotional Factors a Cause

Both the physiological and the emotional status of the patient with dysmenorrhea must be evaluated. Her attitude toward and knowledge of menstruation must be understood. Her character upbringing and early acquired precepts certainly have a bearing on her attitude toward this physiologic process. The inaccurate and misguided instructions given at puberty, a time of great emotional experience, may frequently result in neurotic fears which will have conditioned her attitude toward menstruation.

It is of the utmost importance for the physician to understand the degree of emotional disturbance present before any extensive therapy is planned, because, though symptomatic relief is important, it will be of no enduring value if the dysmenorrhea is only one manifestation of a more serious psychiatric disorder. We may be misled by an incomplete knowledge of the causative elements and only further disturb the patient. For example, an unwarranted surgical procedure or a long series of injections might have an adverse psychologic effect and still further increase her anxiety. I often think of a patient of my own experience, over twenty years ago, who had severe incapacitating dysmenorrhea. After several months of symptomatic therapy, and finally a consultation with a gynecologist, now deceased, we agreed upon an artificial menopause with radium. This stopped her dysmenorrhea, but her symptoms were merely shifted to another part of her anatomy. She still remained a severe psychiatric problem complicated now by a surgical menopause.

In the treatment of these dysmenorrhea problems I believe the first thing is to establish a good relationship, based on confidence, between patient and doctor. A good bit of the success of the treatment depends on this. Clearing up misinformation and misunderstanding about her menstruation

will help. Reassurance about the fears resulting from previous diagnoses and examinations is important. How often does the "tipped womb", the "bad ovary", or the "cyst on the ovary" become a neurotic focus in these women and rear up to haunt the practitioner for years.

Along with reassurance they must be given relief, and the non-addictive analgesics and antispasmodics are helpful. I have used a combination of aspirin, phenobarbital and tropine as a basic formula for several years. In this tranquilized era this might be considered as therapeutic decadence, but the fact remains that it is helpful, economical and there are very rarely any side reactions.

Ovulation and Dysmenorrhea

Most cases of primary dysmenorrhea are associated with ovulation. The production of non-ovulatory bleeding cycles with the use of hormones is often justified and relief is great. I shall not go into this at all; other members of the panel will discuss it, except to say that the oral route is to be preferred in most cases. Nor shall I discuss the surgical measures necessary for some cases.

The point I have attempted to make here is that with a careful history and physical examination, with a sympathetic approach to her problem by gaining her confidence and understanding, the great majority of these women can be helped by the general practitioner. It can't be done in one or two brief office-hour visits, but it can be done in several, over a period of time. There are those that offer more difficult problems. For them, the prompt recognition of this fact and their referral to the proper specialist will hasten the time when they can more fully assume their role in the home and the community.

Thank you.

Chairman Stern: As one can see, this problem has many facets. And as Dr. Fitchett has pointed out, the treatment is not an overall picture but rather an individualization of each patient that comes to us for

treatment. Recently the psychic has played a big part in the practice of medicine. We are becoming more and more conscious of the psychomatic aspect of medicine, especially in the female of the species, the pubertal girl and the woman who has reached past her puberty and possibly has not married, these frequently can raise quite an issue. There are many facets that we have to consider in these cases. We have to consider the family background, the general reaction of the patient to her surroundings, her generalized emotional stability, and also her fears and phobias especially regarding the phenomena of menstruation, or possibly even that of child bearing.

I believe that we are very fortunate in having with us today to discuss this important side, Dr. Fischer, who is Assistant Professor of Psychiatry at Temple University School of Medicine. Dr. Fischer.

Dr. H. Keith Fischer: Dr. Stern, fellow panel members, and members of the Society:

The psychological and emotional aspects which play an important role in the development and persistence of dysmenorrhea are derived from two general sources. The first source is historical, cultural and environmental. The second source is the mother herself who supplies specific conscious intellectual, verbal and emotional attitudes, and the more crucial unconscious identifications. Together these constitute the earliest and most influential blueprint concerning her menstrual and genital femininity available to the developing girl.

On the historical and cultural side, as far back as the mythical Garden of Eden it was said that woman must henceforth bear her children with pain and suffering in punishment for the transgressions of whatever happened there. Religion still includes this in its reports on the origins of man. I might add parenthetically here that Dr. Stern has added some more data from the Good Book of Exodus, that if you will permit me to remember his reference, implies that the woman is practically a taboo

subject for seven days after her baby has arrived. I should have included that at this point. Irrespective of the exact details of the mysterious events which transpired in the fascinating Garden, a good deal of speculation supports the idea that the seductive female was 51 or more per cent responsible for the episode and its sequelae.

Emancipation vs. Rebellion

The American woman, however, has made remarkable strides in her social emancipation from many of these archaic concepts. On the other hand, she is still probably, and frequently correctly, rebelling against the indictments which have associated female sexually with witches and badness. In addition, the prevailing opinion that sexuality is an animal male pleasure and prerogative, to be accepted passively by the woman as a duty which she performs for her husband, is no longer tenable. Fortunately, both American men and women seem to be progressing to the point where the intellectual acceptance of female sexuality as being normal and equal to the male's constitutes a step in the right direction. The intellectual awareness that modern woman has achievements in these areas which rightfully belong to her, the passing of favorable legislation and the coup d'etat which many women have performed in capturing the family purse-strings, has not, however, influenced the deep and most important psycho-biological determinants within the woman herself. These inner elements change much more slowly and involve basic infantile and immature ideas, conflicts and emotions concerning her female genitals, menstruation, babies and sexuality. These latter, which are far more important than intellectual and cultural attitudes, are derived from childhood experiences and are dominated initially and chiefly by identification with the patient's mother herself and the child's own early life experiences and appraisals.

Because of the intellectual and cultural improvements concerning the woman's enlightened role, there would appear to be less dysmenorrhea than existed previously.

I would attribute the resulting progress in a large degree to the better preparation which the modern American mother gives to her young daughter for the normal event of menstruation.

Background History a Key

If the physician asks the patient for a description of her initial menstrual period, her preparation for it and her reaction to it, he will be impressed with finding that the initial menstrual period most likely occurred without any physical pain. More likely the report will be to the effect that the girl discovered that she was bleeding almost as an accidental incident in the course of her usual activity. In many instances she reacted with initial alarm. Her first panicky thought might consider that she had hurt herself inadvertently, or not infrequently, consider the event to be related as a mysterious sequela to forbidden masturbation. These irrational appraisals may exist and be laden with intense emotional conflict even though the patient may have been given some preparation for the menarche by her mother or others in her environment. In the emotionally healthy girl, the neurotic appraisal is soon disregarded. In the less emotionally healthy, these distortions become conditioned and persist as a part of the personality.

One patient was so concerned and upset about her menstruation that she successfully concealed it for the first six periods. She had been conditioned unconsciously and previously with ideas concerning the unacceptable and taboo aspects of the genital and menstrual activities. She was guilty, ashamed, disgusted and frightened by it all at such an early age that the subsequent dysmenorrhea and conflict about her genital and feminine sexual self constituted a defect of great proportions in her personality structure.

Some authors have suggested that dysmenorrhea is more likely to appear with the "tomboyish" or athletic type of girl. I would disagree with this opinion and conclude that the emotional aspects of dysmenorrhea are not related to any specific

personality type but appear to be a part of specific conflicts associated with conscious and unconscious distortions related to the feminine genitals and menstruation itself.

A wide range of meanings are commonly associated with menstruation in the patients themselves. Women have their own names and their own symbols for menstruation. Menstruation can signify that the girl is "healthy" or that she is "sick". It can indicate that she is not pregnant, but that she is capable of being pregnant. One girl can think of menstruation as associated with "good girl" and another as "bad girl". One girl says that she is "hurt", another says she is "hit". One may make menstruation "clean", another "dirty". What do girls really mean when they say, "I'm off the roof"?

Dysmenorrhea and the Sex Factor

In spite of accurate information concerning the nature and meaning of menstruation and in spite of healthy identifications from the environment and the patient's mother herself, menstruation is frequently a secret and mysterious event which in some manner permits "witch stories" and "horror tales" to be associated with it. If emotion is invested in these distorted thoughts concerning her own genitals and menstrual activities on either a conscious or unconscious level, the disturbance in body physiology may result in dysmenorrhea. This requires appropriate therapy. On the other hand, it has been reported that dysmenorrhea, if it does not begin at puberty, may begin and coincide with the time the girl at a later age begins to tackle adult sexual problems. In this situation, dysmenorrhea is a symptom which reflects both tension and stress in her effort to adapt, adjust and develop, as well as meaning that there are specific conflicts related to the genital, sexual areas.

Case No. 1

Let me report a verbatim account of one mother's attitudes and thoughts concerning her genitals, their functions and her problems with them. She is now 35 and is

undergoing psychoanalytic psychotherapy to correct her extreme difficulties.

Ten years previously she had a healthy baby. Following this there were two spontaneous abortions, an 8-month stillbirth due to cord strangulation and another spontaneous abortion.

Concerning herself she says, "I am a third sex. I am either both masculine and feminine or no sex at all. I'm peculiar. I've always felt ugly and unattractive and I was surprised and amazed that men would find me attractive."

Concerning bodies and genitals she said, "Bodies are ugly. I dislike menstrual periods, babies, impure, unclean and repulsive things. Babies are all right if they are inside you, but I never want it to come out. Genitals are exciting and repulsive and linked closely to love and hate. I can't understand why there should be good feelings coming from such a bad place. You go to the bathroom with the same place. If anything is exciting it must also be cruel. The man has to force the woman to make her like him."

Concerning her stillbirth several years previously and her ideas about babies in general she said, "At the delivery of my dead baby I still recall the doctor pulling the dead baby out of me. He was a little boy. They wouldn't let me see him. They pushed my stomach. I got pain. I couldn't breathe. It was all for nothing. How could I have a dead baby? The cord strangled him. Mother did it. They described my baby, but I picture him as a skeleton in a box. It's buried in the same cemetery with my father in a part reserved for stillborns. My husband won't let me visit his grave. I would only punish myself. I wanted a boy. To me the child was never born dead. It was alive. I felt him inside me. I couldn't believe he was dead. I think of father's death. It wasn't real. I knew he'd come back. Father would have been happier for my baby. I like to feel my baby is buried where father was and that they are together. I have to have my babies for

others—my father, my grandparents, or for my own little boy. I can never have a baby for myself. I thought I could have a pregnancy and have a baby for myself. It would fill an emptiness. The baby would make me good. I've always been bad. I have to prove I'm good. There must have been some good in me as a child. Yet I fear if I had a child, he would go through the same as I. I wanted a girl for myself. But I can't think of her in sexual relations. It's cruel. It's wrong. It's mutilating to the girls and maybe to the boys or both. The girls suffer. It's a bad place where babies come from. Vaginas are ugly, they bleed. They have to be covered and never exposed. Women would really be better without them. It is all right to feel nice funny things when you're going to the bathroom, yet you can only feel nice if it is in secret. And you can never let anyone know that there is anything good going on in such bad organs."

Concerning the pregnancy which went to the successful conclusion, ten years previously, the patient said, "I could never picture myself having a baby, full-term and healthy. At that time I ordered a layette but asked them not to mail it until I called. I couldn't picture myself going through it satisfactorily. Sometime I would picture my husband as my baby. I loved him deeply and hated him horribly. But all this was too overwhelming to give to a real baby. Any thinking or talking about a baby stirs me up. I made some baby clothes. I have them hidden away. I get them out and I cry. I can't part with them. I tell myself that some day I'll have a baby for them and then I get sentimental. When I went in for my first delivery the doctors were ready to give me a shot for the pain. I wanted to suffer with the pain. It was so horrible! Since I had felt life inside me I had been sick, but I was really happy with the pregnancy in an unreal and ecstatic way. In the hospital when I gave birth to my boy I heard a woman screaming. The nurse said she was under an anesthetic. My pains got worse. Then I called for help, and I was told to shut up. I screamed for my father.

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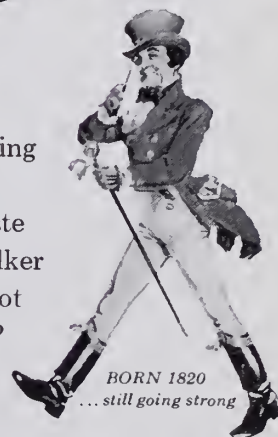
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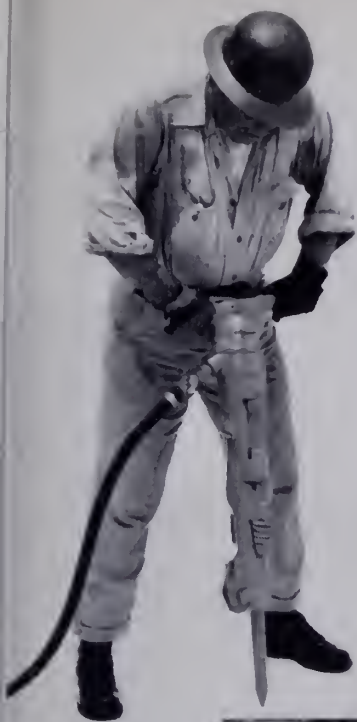
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Some internes poked me. My own doctor didn't come. They put up side boards; my legs were black and blue. I suffered from 4 a.m. until 11 p.m. I asked them to do something. I told them I didn't want the baby. One woman nearby said that her baby was coming and everybody left me and went over to her. I pretended that my baby was coming but no one paid any attention. Finally I did reach down and I felt something hard. I yelled that it was really coming. Then I got a shot. This baby was healthy. Then I got a breast abscess and some penicillin shots. Next I hemorrhaged and I was so exhausted that I couldn't take care of the baby. I wasn't up to being a mother. Anytime the physician said I needed help with my emotions, my husband didn't believe me and we changed doctors.

What would a daughter of this anguished mother learn from her about menstruation, feminine genitals and their functions?

Case No. 2

A 25-year-old girl who has found herself in a panic which has forced cancellation of an engagement and marriage, discusses her feelings as she becomes more and more concerned each month at the onset of her menstrual period. She says, "I began menstruating a week early this month. I have a funny feeling in my mouth. It is dry and I almost think I can taste blood. I awake in the morning nauseated. A part of the time during the day I am calm and at other times I can't stand the thoughts that are going on inside of me. I have given up smoking. I can't stand their taste and besides my fingers start shaking.

"I was always afraid of my mother. She told me if I were bad she'd cut my tongue out, so I was careful never to be bad. I was terrified. I often had nightmares. I guess I thought people would beat me up or hurt me. I was so scared as a child I wouldn't be other than angelic. At the age of 12 I changed. I was inwardly defiant. I would secretly stick my tongue out at them. They'd think I was a sweet girl but then I started to rebel openly. Really mother

didn't want me to grow up. She would be afraid I'd compete with her for father. She never liked the way I looked. My mother is jealous.

"I always have sexual feelings with the menstrual period. And for the last several months I was afraid that with each period I would go out of my mind.

Early Education in the Home

"I had no advance information about menses even though I had a sister six years older. The first period frightened me to death. The day previous I had been to New York with mother. She went down the escalator. I was afraid to go too. The next morning I went to the bathroom after Sunday School and found I was all wet. It was blood. It frightened me. I thought I had cut myself. I was afraid mother would yell at me, but I told her and sister about it and I cried. Mother asked sister to give me information about menstrual periods but sister said that I was mother's daughter and not hers. It was February 27th and I still remember it.

"I really thought I would bleed every day for the rest of my life. I stood rigidly still. I was afraid if I moved the bleeding would be worse and wouldn't stop. All mother told me was that menstrual periods were linked to pregnancies and babies and that I wouldn't have a baby without this. She said that the man planted the seed and that the flower bloomed, and that she'd tell me more when I got ready for marriage. I thought babies were cut out of the stomach. We were very modest and I was shy. It was wrong to look at bodies. I never saw any of my parents nude and even if I did I wouldn't dare look at them. My sister laughed when I asked her how you could go swimming if you were bleeding every day for the rest of your life."

To many girls the menstrual period is mysterious, confusing and frightening because it is something they cannot control. I might add in elaboration of this point, almost every other bodily function you can control to a far greater degree. You learn

to control bowel, bladder, eating, sexuality and so forth, but menstruation is about the only one that no degree of conscious or intellectual will can influence. And to have something go on that frightens a person and have no conscious intellectual control over it is really quite emotionally significant. If, in addition, the menstrual period is associated with strange and frightened feelings with meanings which have become a part of the girl's intellectual and emotional investment in the bleeding period, it is easily understandable as a normal physiological event which has been transformed into a terrifying burden. The great fears and concern can thus disturb the total functioning of such persons and at an even more important level, interfere with her ever achieving any rewarding feminine genital successes.

The developing girl who has to struggle with such conflicts can adjust with several general personality patterns.

Three Patterns

The first pattern would find the little girl consciously and intellectually accepting the feminine role. She appears, dresses, looks and acts like a little lady and entirely feminine. On the other hand, her conflicts are pushed into her unconscious, where she is aware of the details only vaguely or not at all, and in such a manner that repressed emotional tension may cause disturbances in the body physiology resulting in dysmenorrhea, and a variety of pelvic and more diffuse body symptomatology.

A second adjustment may find the girl renouncing the feminine role. She develops a variety of masculine habits and identifications. Sometimes this tendency is only partial and the personality shows a confused pattern of both feminine and masculine characteristics. This individual often has difficulties in her personal and social relations, but may or may not have enough repressed conflict for local pelvic symptomatology. This adjustment may work fairly well in the adolescent years, but it tends to fail with resulting mental or somatic symptoms coinciding with later efforts to-

ward sexuality, marriage, child-bearing or menopause.

The third pattern will find the woman attempting to avoid all genital and sexual function. She tries to be no sex at all and withdraws emotion and libido from these things. Some women are rather successful psychically and physically with this adjustment. Others will be quite sick.

In each of these three patterns, the women are seeking to adjust to their own genitals, their functions and their feminine role. Some do well, many more fail completely or in varying degrees at varying times.

The Physician's Sympathetic Ear

The physician who is initially involved with patients with dysmenorrhea will wish to get the patient to talk. He will want to ask about preparation, ideas, emotion, worries and reactions. With a facilitating manner, the modern American Woman will be encouraged to talk and she will usually respond freely.

The physician should attempt superficial "common sense" psychotherapy in these cases, especially when consultation occurs soon after the onset of symptoms. The family physician can orient the patient to consider dysmenorrhea without organic cause as a true psychosomatic condition. He can correct distorted ideas and information and offer emotional support to the young lady and her mother attempting to solve these problems.

As all physicians do, he applies his therapies to the extent to which they help the patient. If his own psychotherapeutic skills and interests are limited, or should the patient require more skilled and advanced psychotherapy, he will wish to make other arrangements for it.

In the light of progressing insights regarding the treatment of the causes of dysmenorrhea, such an approach is the only rational therapy.

Next month's issue of the JOURNAL will continue the panel discussion on Dysmenorrhea and Premenstrual Tension.

President's Page

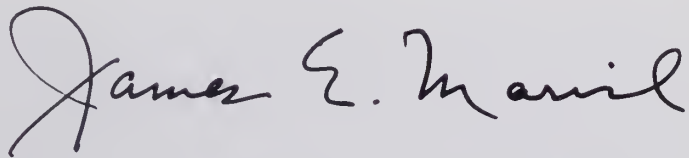
The medical profession of the United States faces its greatest challenge of all time.

Proponents of socialism are trying very hard to establish an entering wedge which will start the toboggan ride to complete Federal control of the health services. Our Federal government is already overburdened and cannot efficiently handle a job of such magnitude.

If the Forand bill becomes law, estimates by reliable sources are that Social Security taxes will be as high as 20% in a short time.

We can and we must help prevent such a calamity by:

- 1 — *Electing* intelligent well informed persons to represent the people in Congress.
- 2 — *Furnishing* the lawmakers with facts regarding health matters.
- 3 — *Giving* special attention to patients in the aged group so that:
 - a. They may be covered by voluntary health insurance.
 - b. We as physicians are sure that we are rendering the best medical service possible at rates the aged and underprivileged are able to pay.



President, Medical Society of Delaware

TWO-WAY RADIO CONFERENCES UNDER WAY

Groups of Delaware physicians are meeting simultaneously in their own communities to participate in live radio conferences in a new experiment in medical education.

The feature which makes this project outstanding is the two-way discussion period which follows each lecture. The moderator of each group collects, sorts and chooses

questions to be discussed and is the only physician actually heard on the air from his station. The order of discussion rotates, starting from a new location each week.

The individual participant is entitled to a written answer by mail to any question which cannot be answered in the time allotted.



The program covers all of the general hospitals in Delaware, four of which are equipped to talk back in the discussion session. Above are Dover physicians convening in the Dover Hotel where a room is reserved for this purpose. Moderator is Lawrence M. Baker, M.D.



Wilmington group meets in the Delaware Academy of Medicine. The Delaware, Wilmington General, Memorial and St. Francis Hospitals also hold seminars but are not equipped for a two-way hookup.

Beebe Hospital is host to the Lewes group. Lunch is served at each location, permitting the busy physician to participate with the least possible interruption of his daily schedule. Arthur Tormet, M.D., is moderator.



The lecture series, under the sponsorship of the Medical Society of Delaware, the Pennsylvania Hospital and Smith, Kline & French Laboratories, was initiated by the Society's Committee on Education under the direction of Dr. Lewis B. Flinn, chairman at that time. Dr. Fred MacD. Richardson, coordinator of professional affairs for the Pennsylvania Hospital, is doing the actual production of the program.

Transmitted over FM radio facilities by Station WHYI, the licensed educational channel for Philadelphia, the two-way radio program is picked up with the aid of booster amplifiers and various kinds of antennas. Another two-way location which has not been shown here is the Nanticoke Memorial Hospital in Seaford. Robert Kingsbury, M.D., is moderator of the group for that area.



Doctors in the Milford area meet in the Milford Memorial Hospital. Program topics were selected by polling all the doctors in Delaware as to specific subjects they were interested in. Dr. Laurence L. Fitchett is moderator.

Editorials

Guest Editorial

Doctor Rudolph Dreikurs, Director of Child Guidance in Chicago, recently addressed a thousand parents and teachers in Delaware. He said that we do not know how to get along with children. Not one of the thousand challenged the doctor's statement!

Some people say that the trouble is a lack of religion in the home. This is truly a serious matter, yet some very religious parents have problems with their children.

Too little love is considered by many as the chief cause of the difficulty. It is indeed tragic for a child to be unloved — but many parents who love their children cannot successfully guide them.

You often hear it said that a child is "not mature." Well if he were mature he would not be a child. I would not want my child to be mature. I do not want to be mature myself. Webster's Collegiate Dictionary defines mature: "Ripe; fully grown; having run to the limit of its time." To be ripe is all too near becoming overripe. To be fully grown leaves no room for further development. Having run to the limit of its time is pitifully final.

In all seriousness, too many people (both young and old) are mature mentally. They have developed such rigid patterns of thinking that they cannot look for nor accept new ideas. This may often be attributed to their parents and teachers, who have instilled within these "mature" minds the concept that there are no new ways of looking at things. Thus all original thinking has been stifled.

More than two thousand years ago, Aesop wrote about the oak and the willow. A storm shattered the sturdy, mature, rigid oak — whereas the flexible young willow was as good as ever after the wind had subsided.

Many authors tell us how to be mature emotionally. I do not want my patients to become mature emotionally, but to become less rigid in their feeling habits. I help them

to learn better control of their emotions by achieving more flexible thought patterns. My honest belief is that unhappy emotional tension is due to a deprivation of understanding rather than to a lack of maturity.

In Dickens' Christmas Carol, Old Scrooge was so mature mentally and emotionally that he seemed unable to enjoy the child-like warmth and friendliness of the season — calling it "Humbug!" However he was still growing spiritually — or else he could not have changed his attitude as he did toward the end of the delightful story.

Very few people even pretend to have attained spiritual maturity. In Henley's poem *Invictus*, it is stated, "I am the master of my fate: I am the captain of my soul". But most religious people continue to depend upon higher powers for guidance. In fact Christians are apt to believe: "Except ye be as little children ye shall in no wise enter into the kingdom of heaven!"

If religion, love, and maturity are not enough, what do we lack? The answer is — "UNDERSTANDING!" You do not understand your child and your child does not understand you.

Any parent, teacher, clergyman, relative, or neighbor can tell you how a child acts, talks, or seems to be. What these people do not know is how they seem to the child.

To help the child we must know all about HIS WORLD. Child guidance experts have special methods for discovering the child's conscious and unconscious attitude toward all the people in his world. Then (through the help of his parents and teachers) we try to make a better world for him. If we find that he has a distorted mental vision of the world, we personally correct this by showing him that it is better than it has seemed to him.

Perhaps your child does not need special guidance. But if you are worried about him, do not depend upon the old idea that he is just going through a "phase" which he will soon "outgrow!"

RICHARD H. PRICE, M.D.

DIABETES

We will soon observe Diabetes Week. This time is designated each year as a week in which we should be unusually vigorous in our attempt to discover all early cases of diabetes as yet undetected.

Elsewhere in this issue of the *Journal* is an article by a Philadelphian on diabetes. While living and practicing out of state, this man is far from being unknown in Delaware. For years he has been consultant to one of our Wilmington hospitals and is held in high esteem by many of our colleagues who know him well.

Dr. Sindoni recently has published the second edition of his book "The Diabetic's Handbook". The value of this book is indicated by the number of nationally recognized authorities who have contributed to it in one way or another. This book is written for the layman and it seems to us that it might well be used to advantage in the coming diabetic detection campaign.

GALLEY: PROOF OR SLAVE?

In 1959 the average physician is more likely to write a scientific paper at some time in his career than was his counterpart of fifty years ago. Because of this, the av-

erage physician should have some knowledge of the publishing business.

Once an article has been accepted for publication, it is the duty of the editor to read it carefully, to correct any obvious errors of grammar, to change minor style variations to conform to the style of the *Journal*, and, when necessary, to delete redundant material. The editor under no circumstances has the right to change the meaning of any statement of the author. Most authors, as full-time physicians and part-time writers, appreciate this service.

On the other hand the author has a responsibility to the *Journal* and its representative, the editor. The manuscript should be legible, preferably typed with double spacing and ample margins. It should be submitted *exactly as the author wishes it to appear*. The editor will make no changes, other than those noted above, without first consulting the author.

Submission of galley proof to the author is a courtesy extended, time permitting, to give him an opportunity to double-check the editor that his article has been printed as it appears; it is *not* an opportunity to rewrite the article.

The cooperation of interested physicians in referring laparotomy-proven cases in connection with an investigation of the role of the adrenal gland in the Stein-Leventhal Syndrome is being solicited by the National Institutes of Health at the Clinical Center, Bethesda, Maryland. Referral letters or phone calls will receive prompt attention and should include detailed medical information about the patient. Please contact: J. E. Rall, M.D., Chief, Clinical Endocrinology Branch, National Institute of Arthritis and Metabolic Diseases, Bethesda 14, Maryland. Telephone Oliver 6-4000, extension 4181.

DIAGNOSIS and

DIFFERENTIAL DIAGNOSIS of ANEMIA*

● Anemia should always be regarded as a danger signal demanding careful reevaluation of the patient's general condition. It is a symptom which should never be accepted as a diagnosis. The author presents Part II, of his comprehensive outline on the subject.

ANDREY GEORGIEFF, M.D.**

TABLE I
CAUSES OF ANEMIA

(Etiologic Classification of Anemia)

- I. Anemias due to increased loss of red blood cells
 - a. Acute loss of blood.
 - b. Chronic loss of blood.
(See Table II)
- II. Extracorpuscular causes
 1. Chemical agents and drugs:

- a. Related to size of dose: benzene, acetanilid, lead, naphthalene, aniline, phenacetin, arsine, etc.
 - b. Depending on hypersensitivity of the patient's red blood cells: sulfonamides, quinine, pamaquine, primaquine, benzedrine, etc.
2. Infectious agents:
 - a. Septicemia
 - b. Parasites, malaria, etc.
3. Animal and vegetable poisons: snake venoms, fava bean, castor oil bean, mushrooms.
4. Burns

*Second part of article, "Anemia," first appearing in the November, 1958 issue of the JOURNAL.

**Chief Resident, St. Francis Hospital, Wilmington.

5. Liver disease
6. Uremia
7. Hypersplenism
 Classification of hypersplenism:
 Primary:
 Acquired hemolytic Anemia (some cases)
 Idiopathic Thrombocytopenic Purpura
 Idiopathic Splenic Neutropenia Pan-
 cutopenic "Hypersplenism"
 Idiopathic Splenic Neutropenia
 Secondary:
 Due to Sequestration of Erythrocytes
 Congenital or Acquired Spherocytosis
 Splénomegalic "Hemoglobino-
 pathies"
 Portal Hypertension
 Other Intrasplenic Stasis
 Due to Allergic Influences
 Associated with Inflammatory States
 Associated with Malignant Diseases
 (especially Lymphomas and Leu-
 kemias)
8. Anemias due to immune body reaction:
 - a. Virus infections: rubella, varicella, Infectious mononucleosis, atypical pneumonia
 - b. Isoagglutinins anti-A, anti-B (transfusion reaction)
 - c. Isoagglutinins anti-Rh, anti-Hr, Kell, Duffy, etc.
 (erythroblastosis fetalis, intra-group transfusion reactions)
 - d. Paroxysmal cold hemoglobinuria
 - e. Chronic infections (especially granulomatous infections, as tuberculosis, brucellosis, sarcoidosis, histoplasmosis, malaria), leukemia, lymphoma, carcinoma, liver disease, collagen disease, myofibrosis, sarcoid, ovarian tumors, Hodgkin's Disease. Immune body may or may not be demonstrated in the diseases listed in "e."
 - f. Congestive splenomegaly, due to any condition producing elevation of pressure in the portal vein system
 - g. Infiltrative splenomegaly, especially diseases like Gaucher's disease
 - h. Collagen diseases.

- i. Splenic neoplasms and cysts
9. Idiopathic acquired anemias (No demonstrable antibodies or primary disease)

B. Intracorpuseular defects

1. Hereditary spherocytosis (also called congenital hemolytic anemia.)
1. Hereditary nonspherocytic hemolytic anemia
3. Hereditary leptocytosis (also called thalassemia.)
4. Sickle-cell anemia
5. Microdrepanocytic disease
6. Other hereditary hemoglobinopathies (C, D, E, G, H, I, J, K, L, M, N, O, P, Q and Bart's)
7. Paroxysmal nocturnal hemoglobinuria
8. Hereditary elliptocytosis (ovalocytosis)

III. Anemias due to decreased rate of cell formation

These anemias may be caused by inhibition of the rate of cell formation by the bone marrow or by replacement of the bone marrow by other tissues.

A. Inhibition (depression) of the rate of red blood cell formation (inhibition of bone marrow activity):

1. Chronic infections
2. Chronic diseases
3. Chemical agents
4. Physical agents
5. Uremia
6. Diffuse carcinomatosis

B. Mechanical interference with blood formation in the bone marrow (Mechanical displacement of the bone marrow; mechanical replacement of the bone marrow). Also called myelophthitic anemia.

1. Leukemia
2. Hodgkin's disease
3. Myelofibrosis
4. Malignancy with metastases to the bone marrow
5. Multiple myeloma
6. Marble bone disease and various other congenital bone diseases are less common causes.

C. Decreased formation of red blood cells due to deficiency of substances necessary for their production.

1. Deficiency of Vitamin B₁₂
2. Deficiency of folic acid
3. Deficiency of iron
4. Deficiency of protein
5. Possible deficiency of Vitamin C may cause anemia.
6. Endocrine deficiency: myxedema, adrenal insufficiency and pituitary insufficiency
7. Liver disease

TABLE II

CLASSIFICATION OF HEMORRHAGE

I. Vascular abnormalities

A. Traumatic injury of vessels, peptic ulcer, esophageal varices, Carcinoma of the G.I. tract, bleeding from female gynecologic organs.

B. Hereditary hemorrhagic telangiectasia

C. Nonthrombocytopenic purpuras.

1. Allergic purpura
2. von Willebrand's disease
3. Hereditary familial purpura simplex
4. Symptomatic: infections, chemicals, animal agents, scurvy, certain chronic diseases
5. Miscellaneous: mechanical purpura, orthostatic purpura, purpura Fulminans

II. Extravascular abnormalities

A. Atrophy of subcutaneous tissues (purpura senilis, purpura cachectica)

B. Fragility and hyperlaxity of the skin (Cushing's syndrome, Ehler-Danlos syndrome, epidermolysis bullosa)

III. Intravascular abnormalities — Defect of coagulation:

Classification of the hemorrhagic disorders due to defects in coagulation.

1. Defect in Stage I — *deficient thromboplastin formation*

A. Deficiency of AHG (classical hemophilia, hemophilia A)

B. Deficiency of PTC (Christmas disease, hemophilia B)

C. Deficiency of PTA (Hemophilia C)

D. Thrombocytopenias

E. Thrombocytopathic purpuras (thrombosthenia, Glanzmann's thrombosthenia). Platelets numerically normal but morphologically and functionally abnormal)

F. Vascular hemophilia (AHG deficiency plus an abnormality of the capillaries)

G. Circulating antithromboplastin:

1. Idiopathic
2. Associated with certain diseases, disseminated lupus, hyperglobulinemia, multiple myeloma, shock, hemophilia, pregnancy.
2. Defect in Stage II — *deficient thrombin formation*

A. Deficiency of prothrombin (Hypoprothrombinemia)

1. Hereditary (rare)
2. Acquired:
 - a. Idiopathic
 - b. Liver diseases
 - c. Newborn
 - d. Vitamin K deficiency
 - e. Drugs — anticoagulants.

B. Deficiency of Proaccelerin:

1. Hereditary (Parahemophilia)
2. Acquired:
 - a. Liver diseases
 - b. Newborn
 - c. Leukemia
 - d. Pernicious anemia
 - e. Purpura fulminans

C. Deficiency of Proconvertin:

1. Hereditary
2. Acquired:
 - Liver diseases
 - Newborn.
 - Vitamin K deficiency
 - Anticoagulants.
3. Defect in Stage III — *defect fibrin formation*

A. Hereditary hypo- or afibrinogenemia

B. Acquired hypofibrinogenemia:

1. Liver disease
2. Complications of pregnancy
3. Certain malignancies (prostate, stomach)
4. Certain bone marrow diseases

5. Pulmonary manipulations
6. Excessive fibrinolytic activity

TABLE III

CAUSES OF PANCYTOPENIA

- A. Hypoplastic (aplastic) anemia
- B. Aleukemic leukemia
- C. Pernicious anemia
- D. Diseases associated with bone marrow invasion (myelophthitic anemia): Metastatic carcinoma, lymphoma, multiple myeloma, myelosclerosis and fibrosis, marble bone disease.
- E. Diseases involving the spleen: 1. Idiopathic, 2. tuberculosis, malaria, Kala-Azar, Sarcoidosis, collagen diseases, syphilis, pyromphoma, Felty's syndrome, amyloidosis, Gaucher's disease, liver disease

TABLE IV

USEFUL TESTS IN DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS OF ANEMIA

1. Hematocrit, hemoglobin and red blood cell chamber count
2. Blood smear
3. Reticulocyte count
4. Platelet count
5. W.B.C. and differential
6. M.C.V., M.C.H., M.C.H.C.
7. Icterus index
8. Fecal urobilinogen
9. Urine Urobilinogen
10. Total serum bilirubin and Van den Bergh
11. Test for hemoglobinemia and hemoglobinuria
12. Osmotic fragility test
13. Mechanic fragility test
14. Test for survival time of red blood
15. Test for warm hemolysis
16. Test for cold hemolysis
17. Test for acid hemolysis
18. Coombs' test
19. Wasserman
20. Preparation for sickle cells
21. Hemoglobin electrophoresis
22. Coagulation time, clot retraction, prothrombin time, bleeding time, prothrombin consumption test, test for fi-

- brinogen deficiency.
23. Serum iron content
24. Iron binding capacity of the plasma
25. B.M.R., P.B.I. and blood cholesterol.
26. Total serum protein, albumin and globulin; preferably protein electrophoretic studies.
27. Liver function tests
28. Occult blood in stools
29. G.I.T. x-ray studies
30. X-ray of chest
31. Rectal examination and sigmoidoscopy
32. Pelvic examination
33. I.V.P.
34. Test for achlorhydria of the stomach
35. X-ray of bones
36. Evaluation of adrenal function
37. Evaluation of pituitary function
38. Bone marrow biopsy
39. Siderocytic stain of blood smear and bone marrow smear
40. Heinz Body stain of blood smear
41. Test for "L.E." phenomenon
42. Capillary fragility test

1. *Hematocrit, Hemoglobin and Red Blood Cell Count.* The presence or absence of anemia can be determined from the red blood cell count, the hemoglobin, or the hematocrit. Of these procedures, the hematocrit is the most accurate as an index of anemia.

2. *Blood Smear.* Must be made directly from the finger. Blood smears should be examined in all instances of suspected Anemia, for the morphology of the cells can serve as a valuable clue to the nature of the anemia and may be used to check the calculated mean corpuscular constants (see further M.C.H., M.C.V., and M.C.H.C.) When we ask a blood smear to be made, we expect the laboratory to report about the following:

- A. Size of the cells. Is there Anisocytosis, or are the cells normocytic, macrocytic or microcytic.
- B. Color of the cells: Are they normochromic or hypochromic?
- C. Shape of the cells: Is there poikilocytosis, spherocytosis, Target cells, ovalocytes and sickle cells?

D. Are there abnormal forms in the smear: polychromatophilia, Stippling, Howell-Jolly bodies, Cabot rings, nucleated R.B.C., parasitized R.B.C.?

Anisocytosis is a variation in size of the R.B.C. Anisocytosis is a sign of increased red cell production. The production of R.B.C. is increased in anemias, in an attempt by the bone marrow to correct the anemia.

The diseases in which there is *macrocytosis* are enumerated in Table VI

The diseases in which there may be *normochromic*, *hypochromic* or *hyperchromic* anemia are also enumerated in Table VI.

Poikilocytosis is variation in shape of the R.B.C. May be seen in any severe anemia.

Spherocytosis. Normally spherocytes are not present in the blood. Spherocytes are found in hereditary spherocytosis, but also may occur with abnormal hemoglobins (see "Hemoglobinopathies" further here)

Target cells are abnormally thin red blood cells, which show a peripheral ring of Hb., separated by a clear unstained zone from a dense central eye. Target cells are thinner than normal red blood cells and are usually larger. The Target cells are unusually resistant to hypotonic salt solution.

Normally Target cells are not present in blood smear.

Target cells are present in Thalassemia, in diseases involving hemoglobin C, S, and E, in some pancreatic diseases, intestinal hemorrhage, in some cases of obstructive jaundice, in severe hepatitis, and following splenectomy.

Ovalocytes (Elliptocytes) are oval-shaped RBC. Normally are not present in the blood. Are present in the blood in ovalocytosis (also called elliptocytosis) which is a benign disorder that is transmitted as a Mendelian dominant characteristic. Evidence of increased blood destruction is found in the 12% of individuals with ovalocytosis (the term being used only when at least 10% of the RBC show ovalocytosis)

Sickle cells are cells with sickled form. Normally they are not present in the blood.

Polychromatophilia is a varied content of the Hb. in different rbc's. Is a sign of youth of the cell, that is polychromatophilia is a sign of increased red blood cell production.

Stippling (Basophilic Stippling) of red blood cells. Normally such cells are not present in the blood. The common causes of basophilic Stippling are: 1. lead poisoning, 2. anemias of toxic origin, 3. infections, 4. Thalassemia, a very common cause, 5. severe anemia, 6. Leukemias

Howell-Jolly Bodies of the red blood cells are retained remnants of the dissolved nucleus of the red blood cell. Normally H.-J. bodies are not present. H.-J. bodies may be seen in the red blood cells in the following: 1. Any severe anemia, 2. may be leukemia, 3. following splenectomy, 4. infants born without spleen, 5. evidence of increased red blood cell production.

Cabot's Rings are remnants of the nuclear membrane. They are a mark of abnormal maturation of the nucleus.

Cause of appearance of *nucleated* red blood cells in the blood: 1. Leukemia, 2. thrombocytopenic purpura, 3. anemia, 4. metastatic invasion of bone marrow by carcinoma.

3. *Reticulocytosis*. Normally in the blood there are 0-2% reticulocytes. The common causes of reticulocytosis are: 1. acute blood loss, 2. any hemolytic anemia. One should be suspicious as to the sole hemolytic nature of an anemia if the reticulocyte count is less than 7%. 3. During early recovery phase of Pernicious Anemia, either spontaneous or induced with Vitamin B₁₂ remission. 4. During early recovery phase of iron-deficiency anemia, particularly with administration of iron. 5. Many cases of granulocytic leukemia, metastatic malignancy and multiple myeloma. 6. The majority of diseases involving abnormal hemoglobin present reticulocytosis.

In the blood smear also may be found *evidence of increased red cell production*.

Some of the signs of increased red blood cell production were mentioned above. To summarize the evidences of increased rate of erythrocyte production are:

1. Reticulocytosis
2. Polychromatophilia
3. Anisocytosis
4. Poikilocytosis (spherocytosis)
5. Nucleated red blood cells
6. Stippling
7. Thrombocytosis
8. Leukocytosis (neutrophilia)
9. Bone marrow is hyperplastic

4. *Platelet Counts* in anemia may be normal, increased or decreased, depending upon the type of anemia.

5. *White Blood Cell Count* may be normal, elevated or decreased depending upon the type of anemia.

6. *Mean Corpuscular Volume* (MCV, average erythrocyte volume), *Mean Corpuscular Hemoglobin* (MCH) average hemoglobin content of red blood cells), and *Mean Corpuscular Hemoglobin Concentration* (MCHC).

Recently, it has been popular and helpful to classify the anemias according to the size of the red blood cells and relative satu-

ration with hemoglobin. Every blood, normal or pathologic, can be characterized according to the size and the content of its red blood cells. It is necessary to carry out only three laboratory procedures:

1. Red blood cell chamber count
2. Hemoglobin
3. Hematocrit

Using the figures obtained, it is possible to calculate the average volume of the red blood cells, the average hemoglobin content of the hemoglobin in the red blood cells and the average concentration of the hemoglobin in the red blood cells. The red blood cells can then be described as to size and amount of the hemoglobin thus:

As to average red cell volume:

Volume normal — normocytic

Volume increased — macrocytic

Volume decreased — microcytic

As to average content of hemoglobin:

Hemoglobin normal — normochromic

Hemoglobin increased —

hyperchromic

Hemoglobin decreased —

hypochromic

On this basis, it is obvious that there are nine theoretical types of anemia, as shown in Table V below.

TABLE V
THEORETICAL TYPES OF ANEMIAS

	Hypochromic	Normochromic	Hyperchromic
Microcytic	Microcytic Hypochromic	Microcytic Normochromic	Microcytic Hyperchromic
Normocytic	Normocytic Hypochromic	Normocytic Normochromic	Normocytic Hyperchromic
Macrocytic	Macrocytic Hypochromic	Macrocytic Normochromic	Macrocytic Hyperchromic

Practically, however, the possibilities are much more limited; the normocytic normochromic, the macrocytic hyperchromic and the microcytic hypochromic are the three anemias which account for a very large proportion of anemias seen in practice. Of the normocytic

anemias, the normochromic is almost the only one encountered. This is usually due to acute blood loss uncomplicated by iron deficiency. A normocytic hypochromic anemia is occasionally seen as a result of early or slight degrees of iron deficiency and blood loss. The only common and clinic-

ally characteristic macrocytic anemia is hyperchromic. Microcytic anemia is almost exclusively of the hypochromic type. The extremely common iron deficiency anemias are of the microcytic hypochromic type.

M.C.V. is the volume of the average red blood cells of a given sample of blood. Normally it is 87 (plus or minus 5) cu. microns and red cells with such size are called *normoblasts* and the condition *normocytic*. Red cells smaller than 80 cu. microns are called *microcytes*, and their occurrence as a prominent type is referred to as *microcytosis*. Red blood cells larger than 94 cu. microns are called *macrocytes*, and the condition of their presence is *macrocytosis*. *M.C.V.* is calculated from the following formula:

$$M.C.V. = \frac{\text{Hematocrit} \times 10}{\text{Rbc. in millions}}$$
 For example a given blood contains 44.6% hematocrit and 5.1 million r.b.c. Then:

$$M.C.V. = \frac{44.6 \times 10}{5.1} = \frac{446}{5.1} = 87$$

M.C.H. expresses the amount of Hb. content by weight in the average r.b.c. of the sample of blood. The normal is 29 (plus or minus 2) micro-micrograms. It is calculated from the following formula:

M.C.H. in micro-micrograms =

$$\frac{\text{grams of Hb. per 100ml. blood} \times 10}{\text{Rbc in millions}}$$

Example: Hb. 15.2 gm. per 100 ml., Rbc 5.1 million. Then $M.C.H. = \frac{15.2 \times 10}{5.1} = \frac{152}{5.1} = 30$ micromicrograms.

The same information expressed in terms of the average normal is the color index (C.I.) The $C.I. = \frac{\text{Hb} (\% \text{ of normal})}{\text{Rbc count (in \% of normal)}}$ The normal C.I. is 1.0 with a range of 0.9 -1.1.

M.C.H.C. is the Hb. concentration per volume (weight per volume) of Rbc of the sample of blood. The normal *M.C.H.C.* is 34 (plus or minus 2) %. It is calculated from the following formula:

$$M.C.H.C. = \frac{\text{grams Hb. per 100 ml. blood} \times 100}{\text{Hematocrit}}$$

Example: Hb. 15.2 grams, Hematocrit 44.6. Then:

$$M.C.H.C. = \frac{15.2 \times 100}{44.6} = 34\%$$

TABLE VI

MORPHOLOGIC CLASSIFICATION OF ANEMIAS

I. Normocytic normochromic anemias (M.C.V.

80-94, M.C.H. 28-32, M.C.H.C. 32-36%).

These anemias are characterized by rbc's of normal size and normal Hb. content. They may be caused by:

1. Sudden acute blood loss
2. Hemolytic anemia (the hemolytic anemias are enumerated in Table I)
3. Hypoplastic and aplastic anemia. (The causes of this anemia are given in Table I)
4. Myelophthasic anemia. These are anemias associated with bone marrow invasion by metastatic carcinomas, leukemia, lymphoma, multiple myeloma, myelosclerosis of the bone marrow, and marble bone disease.
5. Aregenerative. This is refractory, chronic marrow failure. The bone marrow may appear cellular or hypercellular, but delivery of cells from the marrow to the circulation is impaired. In such cases, corticosteroids may be helpful to overcome the malfunction of the bone marrow.
6. Anemia associated with chronic disease: renal disease, infection, malignancy, liver disease, hypothyroidism, collagen diseases, rheumatoid arthritis and rheumatic fever.
7. Associated with splenomegaly: idiopathic, tuberculosis, malaria, Kala-Azar, sarcoidosis, collagen diseases, obstruction of the splenic vein, syphilis, lymphoma, Felty's syndrome, amyloidosis, Gaucher's disease, liver disease.
8. Hydremia — not a true anemia
9. Associated with pregnancy

II. Microcytic anemias (M.C.V.< 80)

A. *Microcytic normochromic anemias* (or also called *Simple Microcytic Anemias*): *M.C.V.*< 80, *M.C.H.*< 27, *M.C.H.C.*>30%. These anemias are characterized by a reduction in the size of the red blood cells without a significant reduction in their Hb. content.

- a. Chronic inflammatory diseases: lung abscess, empyema, bronchiectasis, subacute bacterial endocarditis, P.I.D., Chronic osteomyelitis, Tuberculosis,

brucellosis, cellulitis, chronic deep fungus infections, rheumatoid arthritis, rheumatic fever.

- b. Chronic noninflammatory diseases: Plumbism, malignancy, endocrine disorders (hypoadrenalism, hypopituitarism, hereditary spherocytosis, hemoglobinopathies, renal disease.

NOTE: The anemia associated with all of the conditions listed under "A" is frequently normocytic rather than microcytic. Less frequently the anemia associated with diseases listed under "A" may be microcytic hypochromic because of faulty utilization of iron.

B. *Microcytic hypochromic anemias* (M.C.H.C. < 30%, M.C.H. < 27, M.C.V. < 80) These anemias are characterized by a reduction below normal in the average volume of the red blood cell, together with a marked reduction in the concentration of Hb. These anemias are due to iron deficiency, excepting Thalassemia and a few other rare conditions.

1. Iron deficiency anemia. May be due to:
 - a. Chronic loss of blood (most common)
 - b. Inadequate intake of iron (especially infants on milk diet, etc.)
 - c. Poor absorption of iron. This is seen in malabsorption syndromes. (see Table VII about cause of malabsorption)
 - d. Poor utilization of iron: chronic inflammatory diseases (listed in "A," chronic noninflammatory diseases (listed in "A"), hypothyroidism, malnutrition.
2. Thalassemia and Thalassemia Syndrome
3. Some Hemoglobinopathies (See Table I about hemoglobinopathies)

III. *Macrocytic anemias*: (M.C.V. > 94, M.C.H. 32-50, M.C.H.C. 32-36%). These anemias are characterized by an increase in the average volume (M.C.V.) and Hb. (M.C.H.) The concentration of Hb. in the red blood cell (M.C.H.C.) remains normal. The macrocytic anemias in general are of two types: A. Megaloblastic anemia and

B. Nonmegaloblastic macrocytic anemia.

A. *Megaloblastic macrocytic anemias*. (Megaloblastic erythropoiesis). The bone marrow is megaloblastic.

1. *Pernicious anemia*. Pernicious anemia is distinguished from the other megaloblastic macrocytic anemias in that achlorhydria is always present and neurologic changes may occur.
2. Malabsorption syndromes. See Table in which the malabsorption syndromes are listed.
3. Megaloblastic anemia of infancy.
4. Megaloblastic anemia with *diphyllobothrium latum*
5. *Pellegra*
6. Megaloblastic anemia of pregnancy. But the anemia may be normocytic rather than macrocytic.

B. *Nonmegaloblastic macrocytic anemia*. (Normoblastic erythropoiesis) Here the bone marrow is megaloblastic.

1. May be seen in acute posthemorrhagic anemia, hemolytic anemias, and other conditions usually with normocytic anemia when associated with intense activity of the bone marrow. This is due to entrance in the blood many young cells. Reticulocytosis from any cause may cause nonmegaloblastic macrocytic anemia.
2. Some cases of hypothyroidism (myxedema) (rare), but the anemia may be normocytic rather than macrocytic.
3. Some cases of liver disease (cirrhosis), but the anemia may be normocytic rather than macrocytic.
4. Aplastic anemia
5. Leukemia and Lymphoma
6. Scurvy, but the anemia may be normocytic rather than macrocytic. The macrocytic anemias will be discussed in more detail with P.A.

NOTE. In practice, the most common cause of "macrocytic anemia" is laboratory error, and this is most often due to errors in red cell counting.

This article will be continued in subsequent issues of the JOURNAL.

In Brief

New Book

C. A. D'Alonzo, M.D., Assistant Director of the Medical Division, E. I. du Pont de Nemours & Company, Wilmington, has written a book inspired by the Du Pont Company's success in the rehabilitation of alcoholics among its employees. *The Drinking Problem and Its Control* is an excellent guide to the control of alcoholism by individuals and organizations.

Oh?

"The area (of aging) is so vast there is enough room for glory for everybody . . . political and otherwise." . . . Senator Pat MacNamara.

Home Sweet Home

Fatal home accidents are on the increase in Delaware according to the Delaware State Board of Health. For the first nine months of 1959, there were 37 deaths from home accidents — 4 more than last year for the same period. Falls accounted for 19, fire took eleven, suffocation caused 3 and other causes killed 4. A state-wide Safety Institute was held by the Delaware Safety Council and the State Board of Health, September 25, attended by 250 representatives from business, club and civic organizations, in an effort to reduce the growing list of home casualties.

Panel

Impartial medical testimony was the subject of a panel discussion at the 19th Annual Conference of the Maryland-District of Columbia-Delaware Hospital Association held in Washington, October 26-28th. H. Thomas McGuire, M.D., President, New Castle County Medical Society, was one of the eminent inter-professional leaders comprising the group. The Honorable Emery H. Niles, Chief Judge, Supreme Bench of Baltimore, who spoke here in 1957, presided over the section meeting.

"Speak Now Or . . ."

The Medical Practice Act of Delaware is under review by members of the following committee appointed by Judge Charles L. Terry, President of the Medical Council of Delaware who will act as Chairman: Attorney General Januar D. Bove, Wilmington; M. A. Tarumianz, M.D., Farnhurst; Andrew M. Gehret, M.D., Wilmington; James E. Marvil, M.D., Laurel; W. O. LaMotte, Jr., M.D., Wilmington and Eugene McNinch, M.D., Dover.

Any suggestions or complaints by members of the medical profession should be made to the Committee before the bill is presented to the Legislature in January, 1960.

New Post

Dr. Jack Sabloff who has been Director of Crippled Children's Services with the Delaware State Board of Health, is resigning to accept a post in the Bureau of Maternal-Child Health with the Pennsylvania State Department of Health as of the first of the year. Dr. Sabloff expects to handle aspects pertaining to rheumatic fever and cardiac conditions.

To Be Defined

The definition of the term *internist* was found to be an obvious requirement when the New York State Society of the American Society of Internal Medicine engaged a public relations firm to prepare a successful comprehensive program for them. The name was found to be a major obstacle to understanding and acceptance by the public. It would appear essential said the firm, that internists must define their role in medicine for the layman before an effective public relations program can be attempted.

Election Drugs

GP lists the following drugs sold in quantities during 1956: mineral oil, bulk laxatives, iodine, motion sickness preparations and ice bags. You can draw your own conclusions. Although sales in these items fell in the year following, aspirin sales have climbed steadily since 1956 and GP suggests that they were needed by the public to cure headaches caused by politicians elected in 1956.

Less Noise

The fallacy of high drug cost claims can be cleared up with authentic information. The Health News Institute states that the average patient spends less for better medical care today than he did twenty years ago. In an article on this subject, prepared by the HNI for the Memphis Medical Journal, it is pointed out that:

"Both the successes and failures of research have contributed to the increased price of new medicines. But, both the successes and failures of research have also contributed to the better health and well-being of Americans.

In balance, the cost of medicines must be weighed against our increasing life expectancy; the virtual disappearance of childhood diseases; the plummeting death rate from influenza, pneumonia and tuberculosis; and the future hope for relief from today's great killers, cancer and heart disease."

Slope Medic

A squad of skiing physicians, nurses and public health and administrative personnel will be in attendance at the 8th session of the Olympic Winter Games to be held at Squaw Valley, California. The medical division of the organization will render emergency medical care to all participants as well as making sure that the Olympic area meets the highest standards of sanitation in its food service, water supply, housing and sewage disposal. A 28 bed emergency hospital, medical aid station — both in and outside the Valley — a pharmacy, training or physiotherapy rooms, a mobile evacuation section with a fleet of ambulances, snow vehicles, station wagons and sleds to transport patients over snow are being provided.

Via movies, the Olympic games will be featured at the National Conference on the Medical Aspects of Sports, to be held on November 30th, in Dallas, immediately preceding the American Medical Association Clinical Meeting.

LETTER TO THE EDITOR

● A plea enlisting the support of every A.M.A. component medical society in limiting federal medical care of veterans to service connected disabilities. Dr. Amos R. Koontz, a distinguished surgeon at Johns Hopkins Hospital and past president of the American Military Surgeons, has long been identified with the veteran's medical care program and is a highly respected authority in this field.

MEDICAL AND CHIRURGICAL FACULTY
OF THE STATE OF MARYLAND
1211 Cathedral Street, Baltimore 1, Maryland

A. Henry Clagett, Jr., M.D., Editor
Delaware State Medical Journal
1925 Lovering Avenue
Wilmington 6, Delaware

Dear Dr. Clagett:

The Medical and Chirurgical Faculty of the State of Maryland (Maryland State Medical Association) has, for many years, expressed concern over the inroads the Veterans Administration Hospitals are making into the realm of the private practice of medicine. In order to combat the fantastic growth of treatment of non-service connected ailments of veterans, the Faculty has passed many resolutions condemning this practice and urging that something concrete be done to curtail or stop this insidious growth.

The Faculty's House of Delegates at its 1959 Annual Meeting passed a resolution that all component medical societies of the American Medical Association be contacted and urged to support the Faculty's stand in this respect.

As a result of a letter sent to every A.M.A. component medical society, eleven answers have been received all, in the affirmative.

It is anticipated that other societies will also reply in the affirmative and that full support to this projected concerted action will be forthcoming from them as well.

I sincerely hope that you will see fit to publish this letter and alert your readers to the steps that are being contemplated along these lines, not the least of which is the hope that an appropriate resolution will be introduced in the A.M.A.'s House of Delegates at its clinical session in Dallas in December.

Sincerely,

AMOS R. KOONTZ, M.D., Chairman
Committee on Veterans' Medical Care

Contributors Column



ANTHONY M. SINDONI, JR., M.D.

Anthony M. Sindoni, Jr., M.D., Medical Director of the Sindoni Foundation and Clinic, Philadelphia, is Chief of the Department of Metabolism at the Philadelphia General Hospital and St. Joseph's Hospital. He is also Chief Consultant to the Department of Metabolism at St. Francis Hospital, Wilmington.

Dr. O. N. Stern, a native Wilmingtonian, received his M.D. at the University of Pennsylvania, interned at the Delaware Hospital, Wilmington and completed his residencies at the Baltimore City Hospital and the Pennsylvania Hospital. He is attending physician to Delaware Hospital and consultant to Memorial Hospital.

Dr. Ignacio Chavez, Professor at the National University of Mexico and member of the National College, Mexico, D.F., is also Director, National Institute of Cardiology.

Dr. H. Keith Fischer is a Pennsylvanian by birth. He is Associate Professor of Psychiatry at Temple University where he received his medical education and his M.S. in Psychiatry. Dr. Fischer is Consultant to the U.S. Naval Hospital and the Lutheran Home for the Aged.

Dr. Laurence L. Fitchett received his M.D. at the University of Wisconsin Medical School and is in general practice in Milford, Delaware. He is a Member of the American Academy of General Practice and is a past president of the Medical Society of Delaware.

Dr. Andrey Georgieff, chief resident at St. Francis Hospital, Wilmington, is a graduate of the University of Sofia Medical School, Bulgaria and served his internship in Good Samaritan Hospital, Portland, Oregon.

Dr. Richard H. Price, graduate of the College of Physicians & Surgeons, Boston, and the Washington School of Psychiatry, received his first training in child guidance in the out-patient section of the Boston Psychopathic Hospital. Formerly with the National Institutes of Health, Dr. Price came to Wilmington as Chief of Psychiatry and Neurology at the VA Hospital. He has specialized in child guidance in private practice since 1956 and has published several articles on that subject.

The JOURNAL regrets the omission of the following credit lines for the insert *Parliamentary Procedure* which appeared in the October issue:

From an Exhibit, *What Do I Want to Do in A Medical Meeting?*
G. F. Schmitt, M.D., F.A.C.P., Registered Parliamentarian, 30 S. E. 8th Street, Miami, Florida.

Books

PERIODICAL HOLDINGS OF THE LIBRARY OF THE DELAWARE ACADEMY OF MEDICINE

Abstracts of Soviet Medicine	Vol. 1-	Annals of Internal Medicine	Vol. 1-
Acta—Unio Internationalis		*Annals of the New York	
Contra Cancrum	Vol. 8-	Academy of Sciences	
Acta Allergologica	Vol. 13-	Annals of Otology, Rhinology,	
Acta Chirurgica Scandinavica	Vol. 113-	and Laryngology	Vol. 35-
Acta Endocrinologica	Vol. 21-	Annals of Surgery	Vol. 1-
Acta Haematologica	Vol. 19-	Annals of Western Medicine	
Acta Medica Scandinavica	Vol. 142-	and Surgery	Vol. 1-6
Acta Radiologica	Vol. 37-	*Annual Review of Medicine	Vol. 2-
Acta Rheumatologica		Antibiotics and Chemotherapy	Vol. 3-
Scandinavica	Vol. 5-	Archives of Dermatology and	
American Heart Journal	Vol. 1-	Syphilology	Vol. 19-
American Journal of Cancer	Vol. 15-40	Archives of General Psychiatry	Vol. 1-
American Journal of Cardiology	Vol. 1-	Archives of Industrial Health	Vol. 1-
American Journal of		Archives of Industrial Hygiene	
Clinical Nutrition	Vol. 1-	and Occupational Medicine.	
American Journal of Diseases of Child.		<i>See Archives of Industrial Health</i>	
<i>See Journal of Diseases of Children</i>		Archives of Internal Medicine	Vol. 37-
American Journal of the		Archives of Neurology	
Medical Sciences	Vol. 150-	and Psychiatry	Vol. 23-
American Journal of Medicine	Vol. 2-	Archives of Ophthalmology	Vol. 3-
*American Journal of		Archives of Otolaryngology	Vol. 1-
Mental Deficiency	Vol. 57-	Archives of Pathology and	
American Journal of Obstetrics		Laboratory Medicine	Vol. 1-
and Gynecology	Vol. 7-	Archives of Surgery	Vol. 1-
*American Journal of		Arizona Medicine	Vol. 1-
Ophthalmology	Vol. 2-	Australian Journal of Experimental	
American Journal of Orthodontics		Biology and Medical Science	Vol. 24-
and Oral Surgery	Vol. 25-36		
American Journal of Physiology	Vol. 172-	Biochemistry	Vol. 21-
*American Journal of Psychiatry		Biophysics	Vol. 2-
Vol. 91-99, 113-		Blood	Vol. 1-
*American Journal of		British Dental Journal	Vol. 56-
Public Health	Vol. 17-	Brain	Vol. 81-
American Journal of		British Heart Journal	Vol. 12-
Roentgenology	Vol. 2-	British Journal of Cancer	Vol. 6-
American Journal of Surgery	Vol. 2-	British Journal of Experimental	
American Practitioner and		Pathology	Vol. 33-
Digest of Treatment	Vol. 1-	British Journal of	
*American Review of		Ophthalmology	Vol. 18-
Tuberculosis	Vol. 43-	*British Journal of Physical	
Annales Chirurgiae et		Medicine	Vol. 9-
Gynaecologiae Fenniae	Vol. 44-	British Journal of Preventive	
Annales Medicinae Internae		and Social Medicine	Vol. 1-
Fenniae	Vol. 44-	British Journal of Radiology	Vol. 25-
Annals of Biochemistry and		British Journal of Surgery	Vol. 18-
Experimental Medicine	Vol. 17-	British Medical Journal	1937-
Annals of Dentistry	Vol. 5-10	Bulletin of Experimental	

Biology and Medicine	Vol. 41-	Connecticut State Medical	
Bulletin of the History		Journal	Vol. 2-
of Medicine	Vol. 32-	Current List of Medical	
Bulletin of the Hospital		Literature	Vol. 19-
for Joint Diseases	Vol. 12-	Current Therapeutic Research	Vol. 1-
Bulletin of the Hospital		Danish Medical Bulletin	Vol. 3-
for Special Surgery	Vol. 1-	Delaware Pharmacist	Vol. 2-
*Bulletin of the Johns Hopkins		Delaware State Medical Journal	Vol. 1-
Hospital	Vol. 54-	Dental Clinics of	
Bulletin of the Margaret Hague		North America	1957-
Maternity Hospital	Vol. 1-10	Dental Cosmos	Vol. 55-75
Bulletin of the Medical		Dental Digest	Vol. 33-37
Library Association	Vol. 20-	Dental Items of Interest	Vol. 36-63
Bulletin of the New York		Dental Radiography and	
Academy of Medicine	Vol. 14-	Photography	Vol. 25-
Bulletin of the St. Francis		Dental Record	Vol. 63-65
Hospital and Sanatorium	Vol. 8-	*Diabetes	Vol. 1-
Bulletin of the Sloane Hospital		Diseases of the Chest	Vol. 9-
for Women	Vol. 2-	Diseases of the Colon	
Bulletin of the Staff of		and Rectum	Vol. 1-
Touro Infirmary	Vol. 3-	Endocrinology	Vol. 20-32
Bulletin of University of Miami		Gastroenterology	Vol. 33-
School of Medicine and		GP	Vol. 1-
Jackson Memorial Hospital	Vol. 8-	Geriatrics	Vol. 8-
Calcutta Medical Journal	Vol. 40-	German Medical Monthly	Vol. 1-
California Medicine	Vol. 32-	Grace Hospital Bulletin	Vol. 25-
California and Western Medicine			
<i>SEE California Medicine</i>			
Canadian Medical Association		Harper Hospital Bulletin	Vol. 2-
Journal	Vol. 16-	Hawaiian Medical Journal	Vol. 1-
Canadian Public Health Journal	Vol. 27-25	Hebrew Medical Journal	1943-
Cancer	Vol. 1-	Henry Ford Hospital	
Cancer Current Literature	Vol. 1-6	Medical Bulletin	Vol. 1-
Cancer Research	Vol. 12-	Hospitals	Vol. 33-
Central African Journal of		Illinois Medical Journal	Vol. 63-
Medicine	Vol. 4-	Industrial Medicine and	
Chinese Medical Journal	Vol. 65-	Surgery	Vol. 2-
Ciba Clinical Symposia	Vol. 1-		
Circulation	Vol. 1-	Journal of the Albert Einstein	
Clinical Medicine	1956-	Medical Center	Vol. 1-
Clinical Pharmacology and		Journal of Allergy	Vol. 2-
Therapeutics	Vol. 1-	Journal of the American	
Clinical Review and		College of Dentists	Vol. 1-19
Research Notes	Vol. 1-	Journal of the American Dental	
Collected Reprints of the		Association	Vol. 7-
American Cancer Society	1946-	Journal of the American Medical	
Collected Reprints of the Grantees		Association	Vol. 45-
of the National Foundation		Journal of the American Medical	
for Infantile Paralysis	Vol. 1-	Women's Association	Vol. 1-
Collective Papers of the Mayo Clinic		Journal of the Arkansas	
and Mayo Foundation	1905-54	Medical Society	Vol. 38-

Journal of Bone and Joint Surgery	Vol. 27-	Journal of Pediatrics	Vol. 1-
Journal of Chronic Diseases	Vol. 7-	Journal of Pharmacology and Experimental Therapeutics	Vol. 50-
*Journal of Clinical Endocrinology and Metabolism	Vol. 2-	Journal of the Philippine Medical Association	Vol. 21-
Journal of Clinical Investigation	Vol. 32-	Journal of Prosthetic Dentistry	Vol. 1-
Journal of Clinical Nutrition		Journal of Social Hygiene	Vol. 12-27
<i>SEE American Journal of Clinical Nutrition</i>		Journal of the South Carolina Medical Association	Vol. 51-
Journal of Dental Research	Vol. 20-	Journal of Student American Medical Association	<i>SEE New Physician</i>
Journal of Diseases of Children	Vol. 27-	Journal of Syphilis, Gonorrhea and Venereal Diseases	Vol. 14-29
Journal of Experimental Medicine	Vol. 59-	Journal of Thoracic Surgery	Vol. 1-11, 25-
Journal of Industrial Hygiene and Toxicology	Vol. 16-24	Journal of the Tennessee State Medical Association	Vol. 35-
Journal of the International College of Surgeons	Vol. 12-	Journal of Urology	Vol. 23-
Journal of the Florida Medical Association	Vol. 28-	Kresge Eye Institute Bulletin	Vol. 2-8
Journal of Immunology	Vol. 20-29	Lahey Clinic Bulletin	Vol. 3-
Journal of the Indiana State Medical Association	Vol. 35-	Lancet	1926-
Journal of the Iowa State Medical Society	Vol. 32-	Lukaemia Abstracts	Vol. 1-
Journal of the Kansas Medical Society	Vol. 43-	Marquette Medical Review	Vol. 10-
Journal of the Kentucky State Medical Association	Vol. 40-	Maryland State Medical Journal	Vol. 1-
Journal of Laboratory and Clinical Medicine	Vol. 8-	Medical Annals of the District of Columbia	Vol. 11-
Journal of Louisiana State Medical Society	Vol. 95-	Medical Arts and Sciences	Vol. 1-
Journal of the Maine Medical Association	Vol. 34-	Medical Clinics of North America	1917-
Journal of the Medical Association of Alabama	Vol. 12-	Medical Economics	Vol. 31-
Journal of Medical Education	Vol. 21-	Medical Journal of Australia	1960-
Journal of the Medical Society of New Jersey	Vol. 40-	Medical Times	Vol. 86-
Journal of the Michigan State Medical Society	Vol. 42-	*Medicine	Vol. 1-
Journal of Microbiology, Epidemiology and Immuno-Biology	Vol. 28-	*Metabolism	Vol. 1
Journal of the National Cancer Institute	Vol. 13-	*Military Medicine	Vol. 112-
Journal of Neurology, Neurosurgery, and Psychiatry	Vol. 14-	Minnesota Medicine	Vol. 16-19-26-
Journal of Obstetrics and Gynecology of the British Empire	Vol. 63-	Mississippi Doctor	Vol. 20-
Journal of the Oklahoma State Medical Association	Vol. 36-	Mississippi Valley Medical Journal	Vol. 70-80
		Missouri Medicine	Vol. 40-
		Modern Concepts of Cardiovascular Diseases	Vol. 19-
		Modern Medicine	Vol. 11; 15; 19-
		Nebraska State Medical Journal	Vol. 28-
		New England Journal of Medicine	Vol. 202-
		New Orleans Medical and Surgical Journal	
		<i>SEE Journal of Louisiana State Medical Society</i>	

Delaware Academy of Medicine — Periodical Holdings

New Physician, The	Vol. 1-	Sechenov Physiological Journal	
New York Medicine	Vol. 1-	of the U.S.S.R.	Vol. 43-
New York State Journal of Medicine	Vol. 31-37; 41-	Sinai Hospital Journal	Vol. 1-
North Carolina Medical Journal	Vol. 4-	South African Journal of Medical Sciences	Vol. 8-
Northwest Medicine	Vol. 42-	South Dakota Journal of Medicine and Pharmacy	Vol. 1-
Nutrition Reviews	Vol. 4-	Southern Medical Journal	
Obstetrics and Gynecology	Vol. 1-		Vol. 22-27; 34-44; 50-
Ohio State Medical Journal	Vol. 37-	Stanford Medical Bulletin	Vol. 8-
Orthopedics	Vol. 1-	Statistical Bulletin	Vol. 38-
Panminerva Medica	Vol. 1-	Summary (From Shute Institute for Clinical and Laboratory Medicine)	Vol. 1-
Pavlov Journal of Higher Nervous Activity	Vol. 8-	Surgery	Vol. 1-
Pediatric Clinics of North America	1954-	Surgery, Gynecology and Obstetrics	Vol. 1-
*Pediatrics	Vol. 1-	Surgical Clinics of North America	1926-
Pennsylvania Medical Journal		Surgical Forums	Vol. 1-
	Vol. 35; 39; 40; 45-		
Philippine Journal of Cancer	Vol. 1-	Texas Reports on Biology and Medicine	Vol. 1-
Philippine Journal of Surgery, Obstetrics and Gynecology	Vol. 13-	Texas State Journal of Medicine	Vol. 37-
Problems of Hematology and Blood Transfusions	Vol. 2-	Therapia Hungarica	Vol. 6-
Problems of Oncology	Vol. 3-	Thorax	Vol. 13-
Problems of Virology	Vol. 2-	Today's Health	Vol. 34-
*Proceedings of the American Diabetes Association	Vol. 1-	*Transactions of the American Academy of Ophthalmology and Otolaryngology	1941-
Proceedings of the Royal Society of Medicine	Vol. 35-	*Transactions of the American Clinical and Climatological Association	Vol. 61-
Proceedings of the Society of Experimental Biology and Medicine	Vol. 32-	Transactions and Studies of the College of Physicians of Philadelphia	Vol. 11-
Proceedings of the Staff of the Mayo Clinic	Vol. 2-	U. S. Armed Forces Medical Journal	Vol. 5-
*Psychosomatic Medicine	Vol. 17-		
Public Health Reports	Vol. 60-	Virginia Medical Monthly	Vol. 69-
Quarterly Bulletin of Northwestern University Medical School	Vol. 28-	West Virginia Medical Journal	Vol. 38-
Quarterly Cumulative Index Medicus	Vol. 1-	Wisconsin Medical Journal	Vol. 41-
Quarterly Journal of Studies on Alcohol	Vol. 4-	World Medical Association Bulletin SEE World Medical Journal	
Radiology	Vol. 1-	World Medical Journal	Vol. 1-
Review of Czechoslovak Medicine	Vol. 3-	Yale Journal of Biology and Medicine	Vol. 1-17; 25-27
Rhode Island Medical Journal	Vol. 26-		
Rocky Mountain Medical Journal	Vol. 39-		
Scottish Medical Journal	Vol. 1-		

*Not subscribed to by the Academy; received as gift. Some issues are missing and the current issues are received after considerable delay.

MAJOR MEDICAL MEETINGS IN DELAWARE

Standing Schedule

Beebe Hospital	General Staff	2nd Friday	Monthly
Delaware Hospital	General Staff	2nd Tuesday	Feb., May, Sept., Dec.
Kent General Hospital	General Staff	3rd Tuesday	Monthly
Memorial Hospital (Wilmington)	General Staff	2nd Tuesday	Jan., March, June, Oct.
Milford Memorial Hospital	General Staff	2nd and last Tuesdays	Monthly
Nanticoke Memorial Hospital	General Staff	1st Thursday	Monthly
St. Francis Hospital	General Staff	4th Tuesday	March, May, Oct.
		1st Tuesday	December
Wilmington General Hospital	General Staff	4th Tuesday	Jan., April, Sept., Nov.

Kent County Medical Society	Monthly Meeting	3rd Tuesday	September - June
New Castle County Medical Society	Monthly Meeting	3rd Tuesday	September - June
Sussex County Medical Society	Monthly Meeting	2nd Thursday	September - June

Delaware Academy of General Practice	Monthly Meeting	1st Tuesday	September - June
Delaware Pathology Society	Weekly Meeting	Each Friday	

Special Schedule

Delaware Academy of General Practice	Annual Meeting	Academy of Medicine	December 5, 1959
Medical Society of Delaware	Annual Meeting	Rehoboth, Delaware	September, 1960

LECTURE COURSE

Subject: Basic Electrocardiography	Place: Memorial Hospital, Wilmington
Schedule: Part I	Schedule: Part II
Time — Every Thursday afternoon 4-5 p.m.	Time — Same as for Part I
Dates: From October 29, 1959 through February 25, 1960	Dates: March 3rd through March 31st, 1960
	<i>Arrangements must be made for Part II only.</i>

For full details regarding this series write to the Director of Medical Education, Memorial Hospital, Wilmington

TWO-WAY RADIO CONFERENCES FOR THE COMING MONTH

Sponsorship: *Medical Society of Delaware, Pennsylvania Hospital, Smith Kline & French Laboratories.*

<i>Date</i>	<i>Topic and Faculty</i>
Nov. 24—	“Proper Use of Anticoagulants.” Joseph B. Vander Veer, M.D., Cardiologist to Pennsylvania Hospital.
Dec. 1—	“Diabetic Acidosis.” Garfield G. Duncan, M.D., Director, Division of Medicine, Pennsylvania Hospital.
Dec. 8—	“Treatment of Urinary Tract Infections.” Alex J. Michie, M.D., Associate Urologist to Pennsylvania Hospital; Assoc. Surgeon, Div. of Urology, Children’s Hospital; Ass’t. Prof. of Ped. Surg., University of Penna. School of Medicine.
Dec. 15—	“Dysfunctional Uterine Bleeding.” S. Leon Israel, M.D., Obstetrician and Gynecologist to Pennsylvania Hospital.

When the vagus burns at both ends



Pro-Banthine® with Dartal® moderates both mood and gastrointestinal spasm

The slow simmer of anxiety frequently causes kindred gastrointestinal overactivity. The spasticity and the accompanying distress of excess acid lead to loss of efficiency. Patients subject to such psychoenteric upsets require therapy to calm both ends of the vagus.

Pro-Banthine with Dartal contains two agents required for such dual therapy: Pro-Banthine to control and curtail the flare-ups of spasm, excess acidity and excess motility,

and Dartal to smother simmering anxiety and tension.

Pro-Banthine with Dartal contains 15 mg. of Pro-Banthine (brand of propantheline bromide) and 5 mg. of Dartal (brand of thio-propazate dihydrochloride) in each tablet.

Dosage: One tablet three times a day.

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tranquilization

anti-emetic

greater specificity
of tranquilizing action
—divorced from such
"diffuse" effects as
anti-emetic action
—explains why



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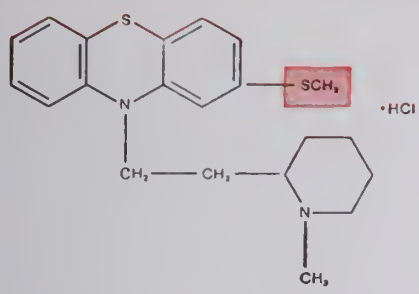
THIORIDAZINE HCl

is virtually free of such toxic effects as • jaundice • Parkinsonism • blood dyscrasia

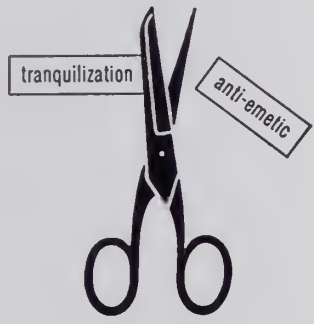
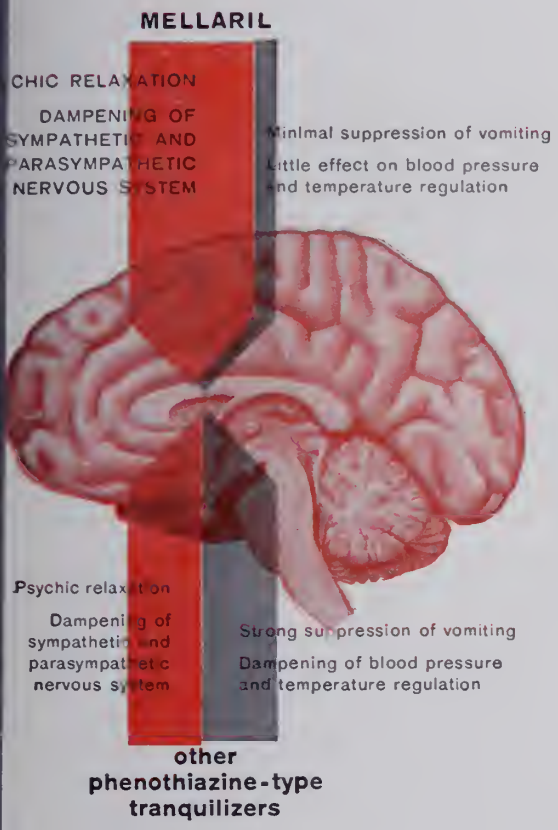
"Thioridazine [MELLARIL] is as effective as the best available phenothiazine, but with appreciably less toxic effects than those demonstrated with other phenothiazines. ... This drug appears to represent a major addition to the safe and effective treatment of a wide range of psychological disturbances seen daily in the clinics or by the general practitioner."*

new advance in tranquilization!

greater specificity of tranquilizing action results in fewer side effects



The presence of a thiomethyl radical (S-CH₃) is unique in Mellaril and could be responsible for the relative absence of side effects and greater specificity of psychotherapeutic action. This is shown clinically by:



- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.
- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy.
- 5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

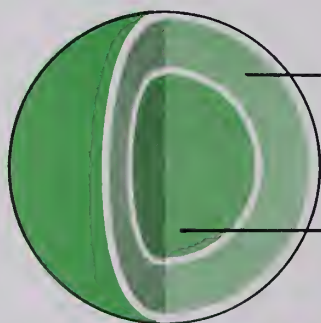
INDICATION	USUAL STARTING DOSE	TOTAL DAILY DOSAGE RANGE
ADULTS: Mental and Emotional Disturbances: MILD —where anxiety, apprehension and tension are present MODERATE —where agitation exists in psychoneuroses, alcoholism, intractable pain, senility, etc. SEVERE —in agitated psychotic states as schizophrenia, manic depressive, toxic psychoses, etc.: Ambulatory Hospitalized	10 mg. t.i.d. 25 mg. t.i.d. 100 mg. t.i.d. 100 mg. t.i.d.	20-60 mg. 50-200 mg. 200-400 mg. 200-800 mg.
CHILDREN: BEHAVIOR PROBLEMS IN CHILDREN	10 mg. t.i.d.	20-40 mg.



the complaint: "nervous indigestion"

the diagnosis: any one of several nonspecific gastrointestinal disorders requiring relief of symptoms by sedative-antispasmodic action with concomitant digestive enzyme therapy.

the prescription: a new formulation, incorporating in a single tablet the actions of Donnatal and Entozyme. **the dosage:** two tablets three times a day, or as indicated.



the formula: in the gastric-soluble outer layer:

Hyoscyamine sulfate	0.0518 mg.
Atropine sulfate	0.0097 mg.
Hyoscine hydrobromide	0.0033 mg.
Phenobarbital (1/8 gr.)	8.1 mg.
Pepsin, N. F.	150 mg.

in the enteric-coated core:

Pancreatin, N. F.	300 mg.
Bile salts	150 mg.

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Whatever the bacterial infection seen in EENT, the foci respond rapidly to a suitable form of broad-spectrum ACHROMYCIN. In superficial cases, local therapy is often dramatic. In deep-seated conditions, ACHROMYCIN V capsules complement topical control for fast relief and remission.

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swallow a
lot of
tablets”

“Little mother, just
ONE
BONADOXIN®
tablet stops morning sickness
(you take it at bedtime)”



The formula tells why BONADOXIN quickly stops nausea and vomiting of pregnancy in 9 out of 10 cases.* Each tiny BONADOXIN tablet contains: Meclizine HCl (25 mg.) for antinauseant action / Pyridoxine HCl (50 mg.) for metabolic replacement. More than 60,000,000 tablets prescribed and taken. Toxicity low, tolerance excellent. In bottles of 25 and 100. Usual dose: one tablet at bedtime; severe cases may require another on arising. See PDR, p. 779.

BONADOXIN also effectively relieves nausea and vomiting associated with: anesthesia, radiation sickness, Meniere's syndrome, labyrinthitis, cerebral arteriosclerosis and motion sickness.

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*Bibliography available on request.



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avoid the risk of insoluble, irritating aspirin particles

Chief among the drawbacks to aspirin usage is gastric intolerance. This ranges from mild upset and "heartburn" to severe hemorrhagic gastritis.¹⁻¹⁰ Studies performed in conjunction with gastrectomy^{4,5} and gastroscopy² have shown insoluble aspirin particles firmly adherent to

the gastric mucosa and imbedded between rugae. Reactions varying from mild hyperemia to erosive gastritis have been reported to occur in the areas immediately surrounding these adherent particles.^{2,4,5} This is reported to be particularly true in patients with peptic ulcer.⁴

CALURIN is the freely soluble, stable calcium aspirin complex. Its high solubility forestalls gastric irritation or damage



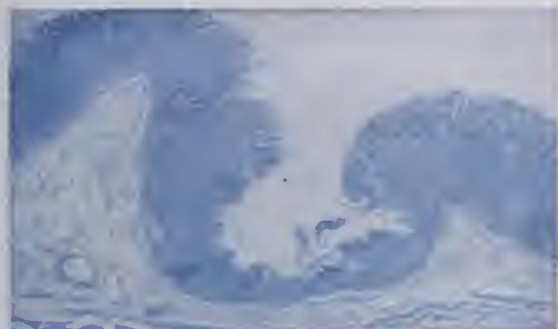
Regular aspirin crystals 24 hours after being mixed into water.



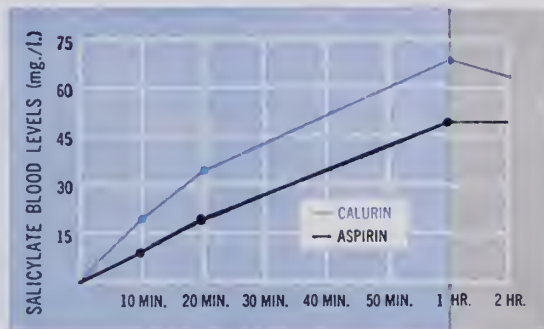
Calurin crystals in solution one minute after being mixed into water.

CALURIN*

STABLE SOLUBLE CALCIUM-ACETYLSALICYLATE-CARBAMIDE



Particle-induced ulceration — section through lesion found in gastrectomy specimen. An aspirin particle was found firmly imbedded in this undermined erosion. Such lesions may be associated with the relative insolubility of aspirin, which remains in particulate form after dispersion in gastric contents.



Calurin, being freely soluble, is promptly available for absorption into the systemic circulation. Salicylate blood levels in 12 subjects receiving both Calurin and plain aspirin were found to rise more than twice as high within ten minutes following Calurin. Also, these levels persisted higher for at least two hours.¹¹

CALURIN is the aspirin of choice, especially when high-dosage, long-term therapy is indicated:

- 1 High solubility forestalls gastric irritation or damage. This advantage is of special importance in arthritis and other conditions requiring high-dosage, long-term therapy.
- 2 Produces high salicylate blood levels rapidly for prompt analgesic, anti-pyretic, anti-arthritic effect.
- 3 Sodium-free — for safer long-term therapy.
- 4 Flavored: can be chewed or dissolved in the mouth without water if desired — an advantage for patients requiring aspirin administration during the night and for pediatric patients.

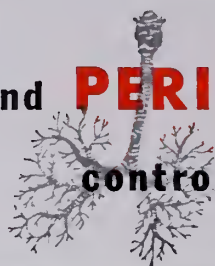
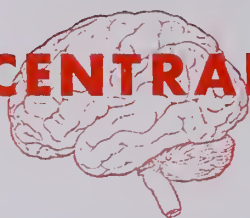
Dosage: Each tablet of Calurin is equivalent to 300 mg. (5 gr.) of acetylsalicylic acid. For relief of pain and fever in adult patients, the usual dose of Calurin is 1 to 3 tablets every 4 hours, as needed; in arthritic states, 2 or 3 tablets 3 or 4 times daily; in rheumatic

fever, 3 to 5 tablets 4 or 5 times daily. For children over 6 years, the usual dose is 1 tablet every 4 hours; for children 3 to 6 years, ½ tablet every 4 hours, as required. Not recommended for children under 3.

REFERENCES: 1. Waterson, A. P.: Aspirin and gastric haemorrhage, *Brit. M. J.* 2:1531, 1955. 2. Douthwaite, A. H., and Lintott, G. A. M.: Gastroscopic observation of the effect of aspirin and certain other substances on the stomach, *Lancet* 2:1222, 1938. 3. Editorial Comments: The effect of acetylsalicylic acid (aspirin) on the gastric mucosa, *Canad. M. A. J.* 80:47, 1959. 4. Muir, A., and Cossar, I. A.: Aspirin and ulcer, *Brit. M. J.* 2:7, 1955. 5. Muir, A., and Cossar, I. A.: Aspirin and gastric haemorrhage, *Lancet* 1:539, 1959. 6. Schneider, E. M.: Aspirin as a gastric irritant, *Gastroenterology* 33:616, 1957. 7. Bayles, T. B., and Tenckhoff, H.: Salicylate therapy in rheumatic diseases, Scientific Exhibit, Ann. Mtg. A. M. A., San Francisco, Calif., June, 1958. 8. Batterman, R. C.: Comparison of buffered and unbuffered acetylsalicylic acid, *New Eng. J. M.* 258:213, 1958. 9. Cronk, G. A.: Laboratory and clinical studies with buffered and nonbuffered acetylsalicylic acid, *New Eng. J. M.* 258:219, 1958. 10. Editorial: Aspirin plain and buffered, *Brit. M. J.* 1:349, 1959. 11. Smith, P. K.: Plasma concentration of salicylate after the administration of acetylsalicylic acid or calcium acetylsalicylate to human subjects, Report submitted to Smith-Dorsey from Dept. of Pharmacology, Geo. Washington Univ. School of Medicine, Washington, D. C., Sept. 5, 1958.

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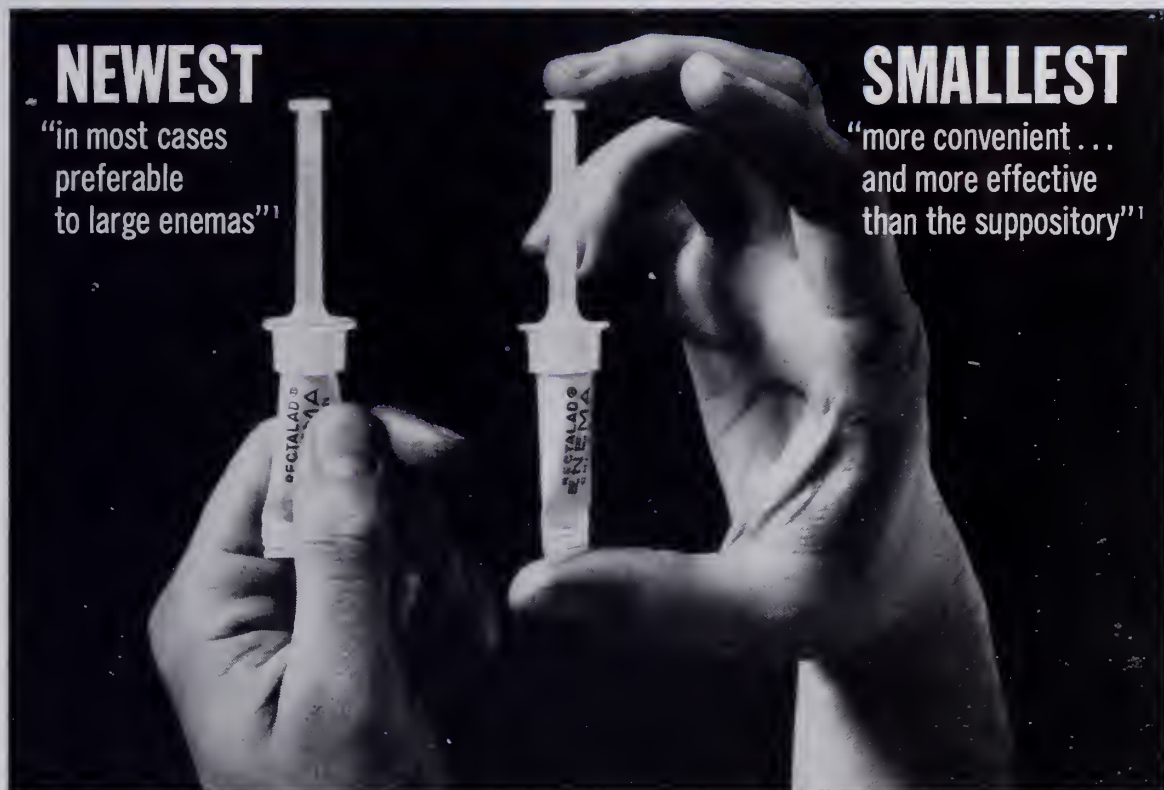
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Topical action triggers the defecatory reflex to produce natural peristalsis in the lower bowel only. Wetting agent spreads ingredients to lubricate and soften the fecal mass for easier passage. Results are rapid² and, in over 90% of patients, completely satisfactory.^{1,3} Economical RECTALAD MINIATURE ENEMA is not absorbed, does not disturb fluid-electrolyte balance and is well tolerated by patients of all ages.

RECTALAD[®] MINIATURE ENEMA contains glycerin, sodium stearate, dioctyl sodium sulfosuccinate and water in a self-contained disposable unit. For your prescription or recommendation: 5 cc. adult size and 2 cc. pediatric size. Samples available on request.

References: 1. Aries, P. L.: J.A.M.A. 169:708 (Feb. 14) 1959. 2. Personal Communication on file at Medical Department, Wampole Laboratories. 3. Reports of clinical trials by 9 physicians.

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RESEARCH:

key to Kent's popularity

In 1958, Kent made the greatest gain in popularity ever recorded by any filter cigarette in any year—a sales increase of 20-billion cigarettes.

Behind this popularity is a story of months and years of research, perfecting the remarkable combination of filter action and flavor found in today's Kent cigarette. In developing Kent, Lorillard research scientists recognized that smokers wanted, on the one hand, a really satisfying taste; on the other, reduced tars and nicotine. In addition, smokers demanded a free and easy draw.

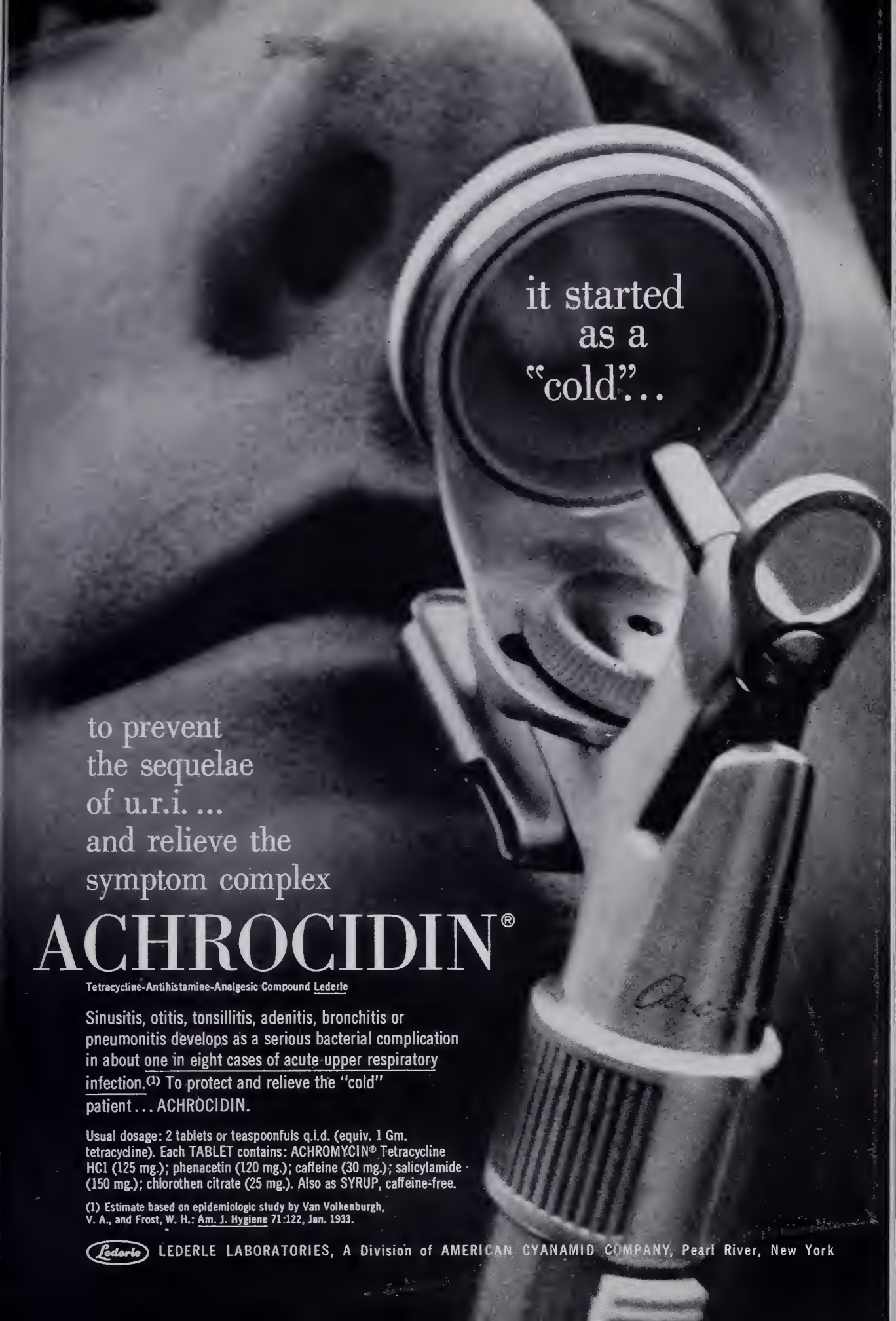
These, then, were the objectives. The first scientific breakthrough in the project was the development of the exclusive Micronite filter, patented by Lorillard. This filter was created because of newly-discovered principles in the field of filtration, which have

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Though this filter satisfied everyone on its ability to reduce tars and nicotine to the lowest level among the largest selling brands, there was still work to be done in the areas of taste and draw. After additional months of research, a new tobacco blend was developed which delivered rich taste *after* the smoke had passed through the filter. Next in the series of laboratory triumphs was a method of improving the draw to compare with the most free-drawing of all filter brands.

The rest of the Kent story is a legend in the tobacco industry. Outside, independent research studies confirmed the fact that Kent had achieved its objectives. Smokers responded. In fact, during the past year, more smokers changed to Kent than to any other cigarette in America.





it started
as a
"cold"...

to prevent
the sequelae
of u.r.i. ...
and relieve the
symptom complex

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Sinusitis, otitis, tonsillitis, adenitis, bronchitis or pneumonitis develops as a serious bacterial complication in about one in eight cases of acute upper respiratory infection.⁽¹⁾ To protect and relieve the "cold" patient... ACHROCIDIN.

Usual dosage: 2 tablets or teaspoonfuls q.i.d. (equiv. 1 Gm. tetracycline). Each TABLET contains: ACHROMYCIN[®] Tetracycline HCl (125 mg.); phenacetin (120 mg.); caffeine (30 mg.); salicylamide (150 mg.); chlorothen citrate (25 mg.). Also as SYRUP, caffeine-free.

(1) Estimate based on epidemiologic study by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122, Jan. 1933.



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greater antihypertensive effect...fewer side effects

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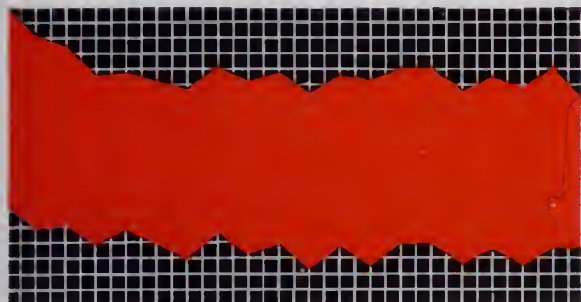
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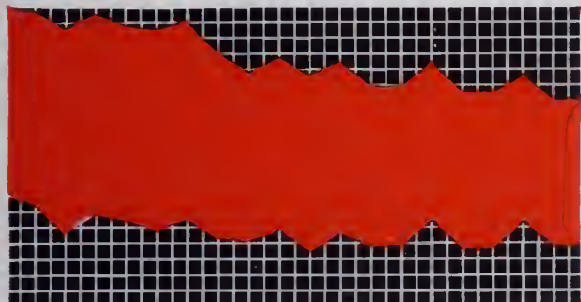
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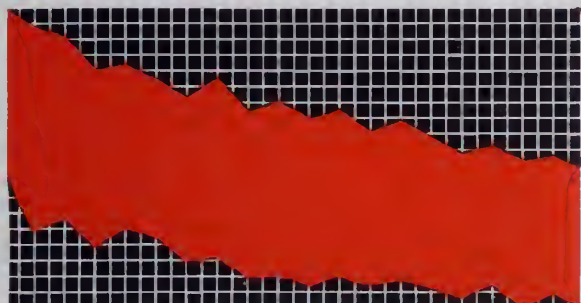
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- Effective by itself in a majority of patients. Provides smooth, more trouble-free management of hypertension.
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- HYDOPRES provides the needed and valuable tranquilizing effect of reserpine. Lower dosage may reduce such side effects of reserpine as excessive sedation and depression.
- Arrest or reversal of organic changes of hypertension may occur.
- Headache, dizziness, palpitations and tachycardia are usually promptly relieved. Anginal pain may be reduced in incidence and severity.
- With HYDOPRES, dietary salt may be liberalized.
- Convenient, controlled dosage.

HYDOPRES-25

25 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one to four times a day.

HYDOPRES-50

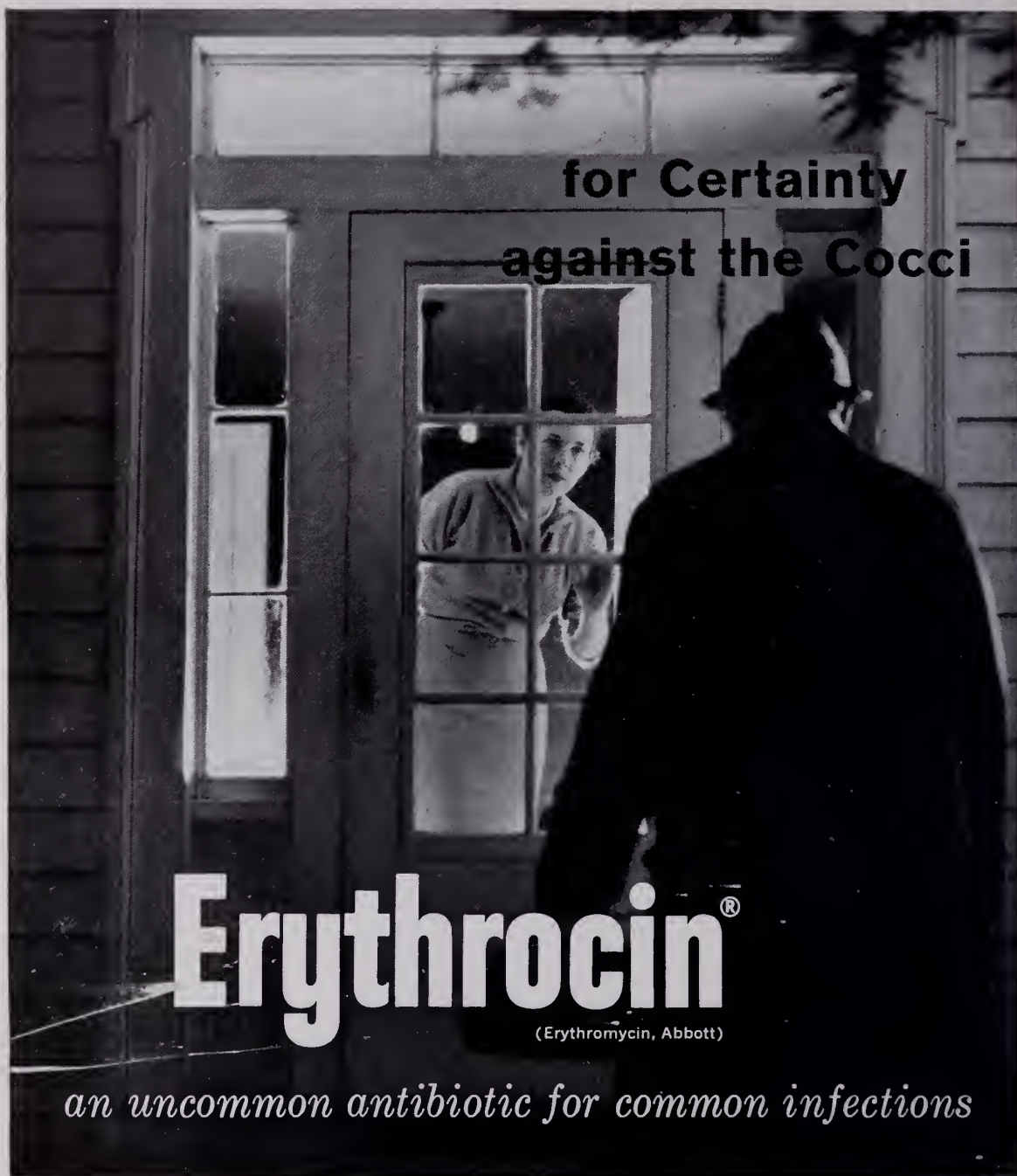
50 mg. HYDRODIURIL, 0.125 mg. reserpine.
One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine,
their dosage must be cut in half when HYDOPRES is added.



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and open stuffed noses orally

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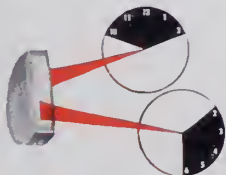
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Pheniramine maleate 25 mg.
Pyriminamine maleate 25 mg.

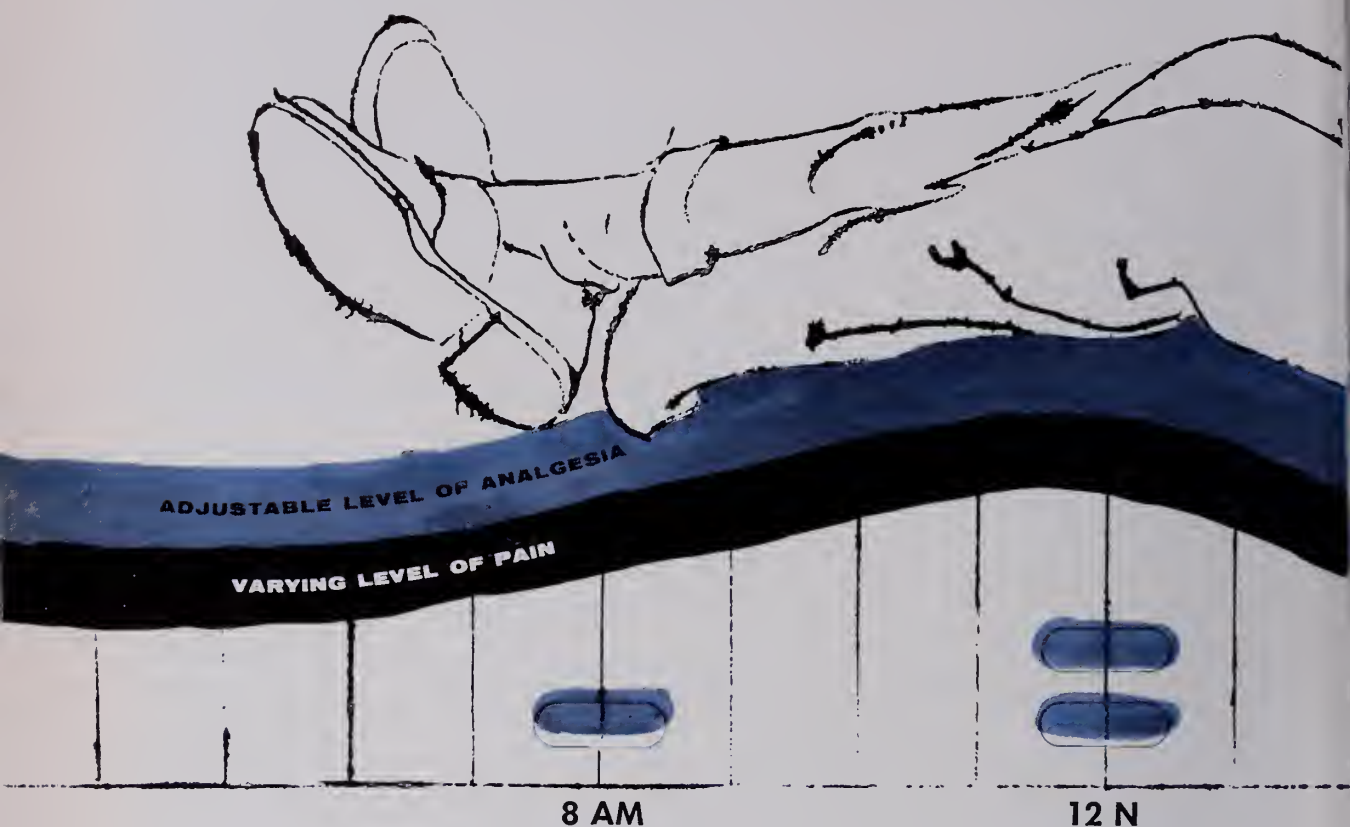
One-half of this formula is in the outer layer, the other half is in the core.

Dosage: One tablet in the morning, mid-afternoon and at bedtime.

References: 1. Lhotka, F. M.: Illinois M. J. 112: 259 (Dec.) 1957. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958.

TRIAMINIC JUVELETS: Each timed-release Juvelet is equivalent in formula and dosage to one-half of a TRIAMINIC tablet, for the adult or child who requires only half strength dosage.

TRIAMINIC SYRUP is recommended for adults and children who prefer liquid medication. Each 5 ml. tsp. is equivalent to $\frac{1}{4}$ of a Triaminic Tablet. *Adults:* 2 tsp. 3-4 times a day; *children 6-12:* 1 tsp. 3-4 times a day; *children under 6:* in proportion.



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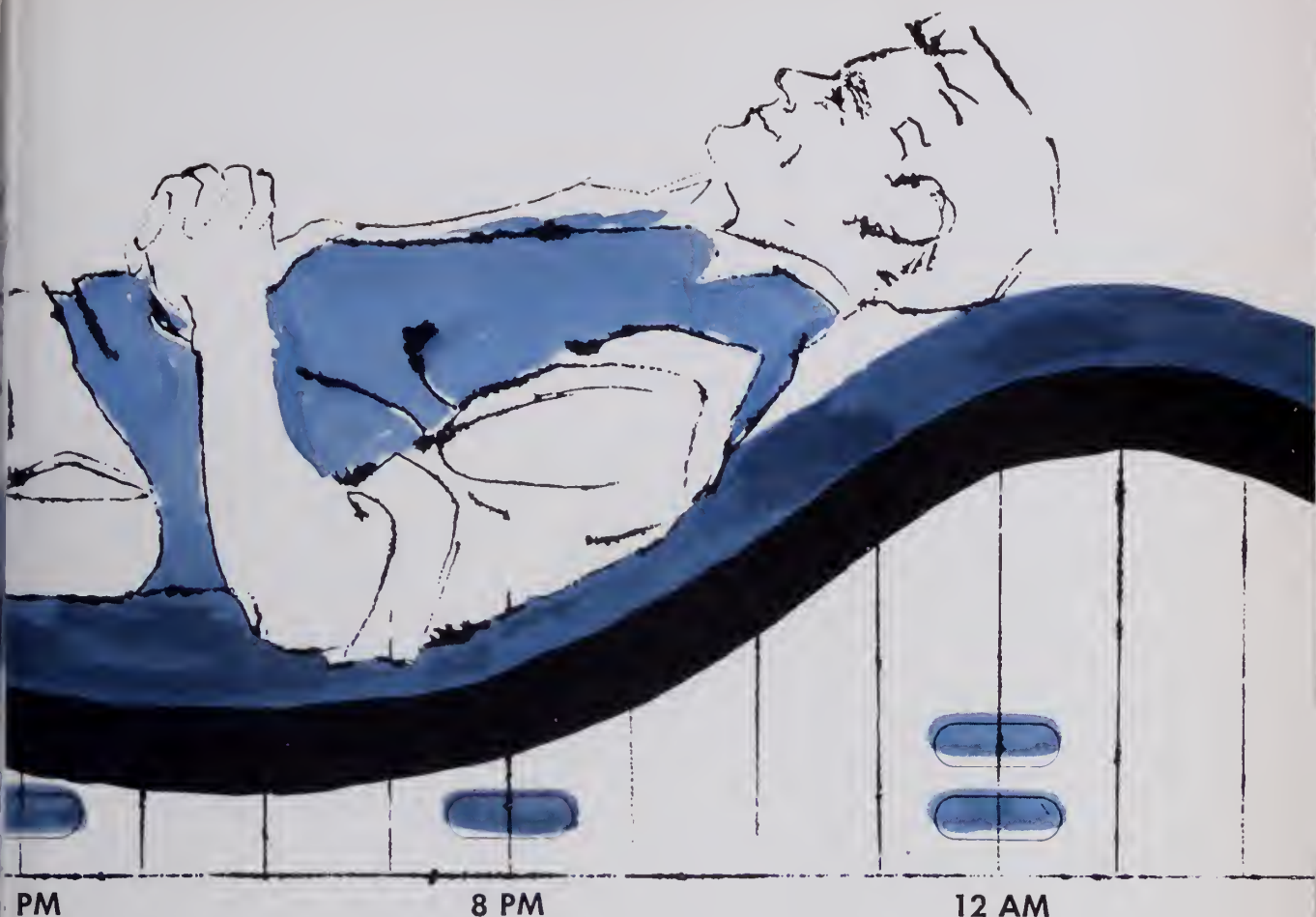
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*except those for whom recourse to morphine is inescapable.

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 Hyoscyamine sulfate.....0.031 mg.

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For moderate to severe pain

Phenaphen No. 3

Phenaphen with Codeine Phosphate ½ gr. (32.4 mg.)

For severe or stubborn pain

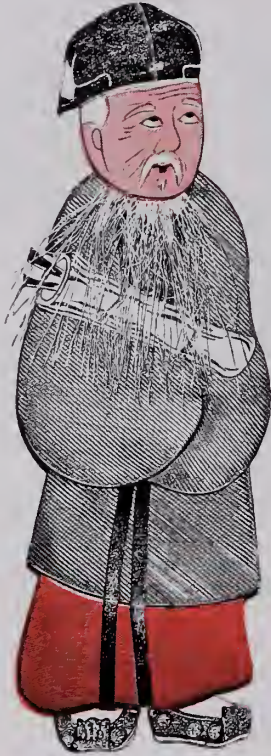
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Phenaphen with Codeine Phosphate 1 gr. (64.8 mg.)

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B complex
vitamins

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nutritional
anemia
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low-grade
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with less risk of disturbing hormonal balance



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1. Kuzell, W. C., and others.: Arch. Int. Med. 92:646, 1953. 2. Wolfson, W. Q.: J. Michigan M. Soc. 54:323, 1955. 3. Strandberg, B.: Brit. J. Phys. Med. 19:9, 1956. 4. Platt, W. D., Jr., and Steinberg, I. H.: New England J. Med. 256:823 (May 2) 1957.

Geigy, Ardsley, New York

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Source: Refresher Article:
Biliary Tract
Diseases, M. Times
85:1081, 1957.

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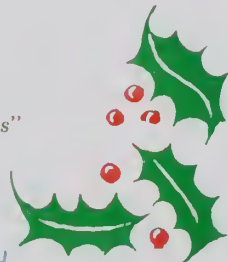
DELAWARE STATE MEDICAL JOURNAL

INCORPORATED 1789
DECEMBER, 1959



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DELAWARE STATE MEDICAL JOURNAL

Official Publication of the Medical Society of Delaware

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 rt, cited with permission. 3. Prigot, A.: Clinical report, cited with permission. 4. Gosline, E., *et al.*: *Am. J. Psychiat.*
 939 (April) 1959. 5. Turvey, S. E. C.: Clinical report, cited with permission.

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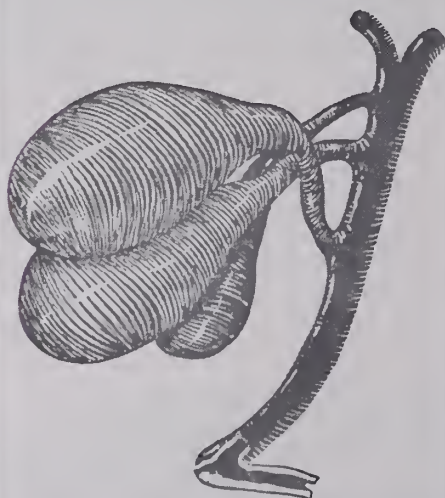
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Source: Skilboe, B.: Am. J. Clin. Path. 30:252, 1958.



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- (1) Beckman, H.: Drugs: Their Nature, Action and Use, Philadelphia, W. B. Saunders Company, 1958, p. 425.
(2) Biliary Tract Diseases, M. Times 85:1081, 1957.

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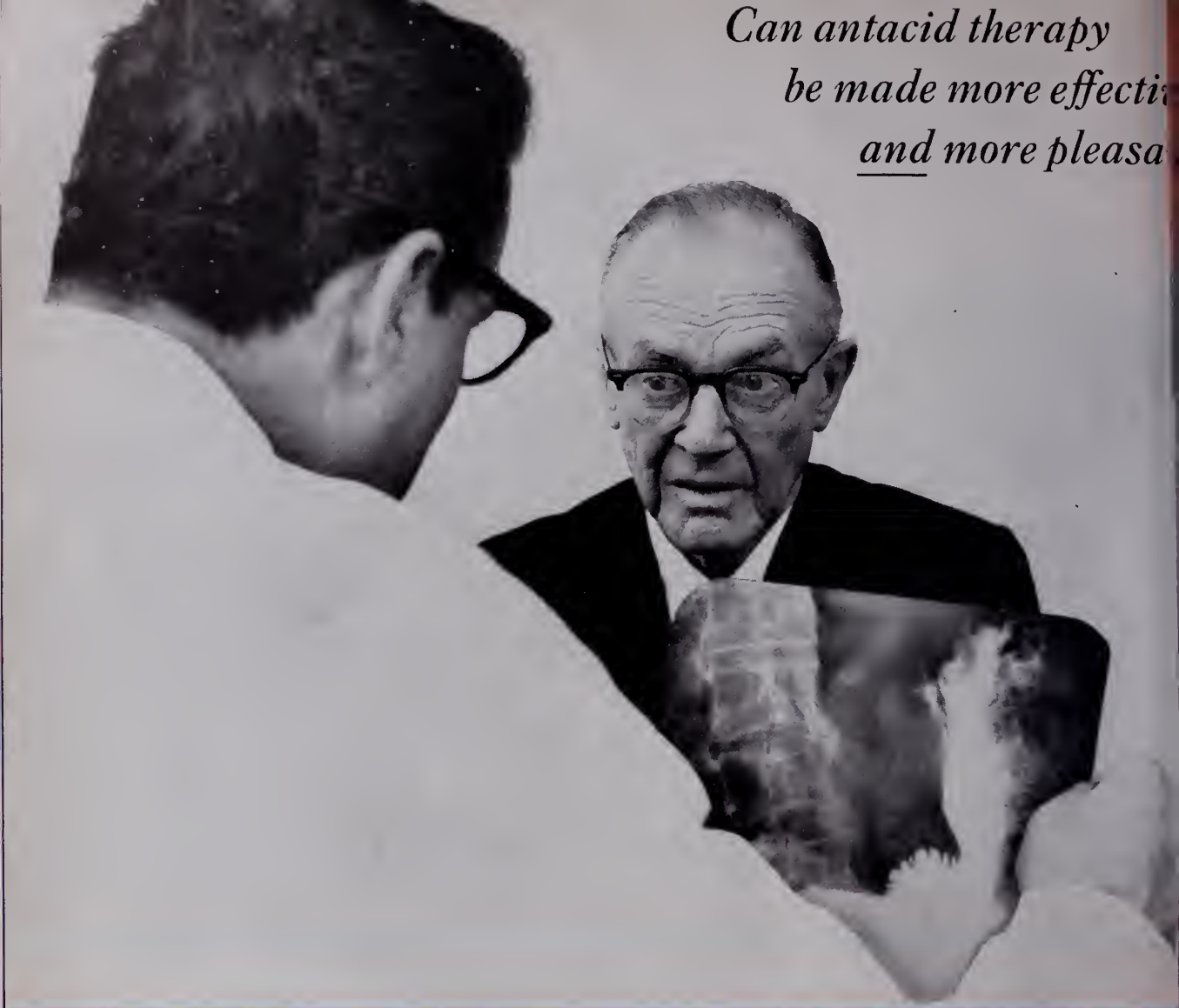
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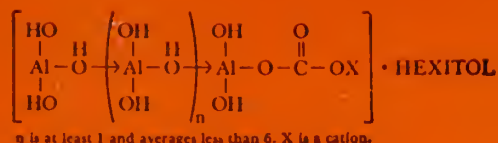
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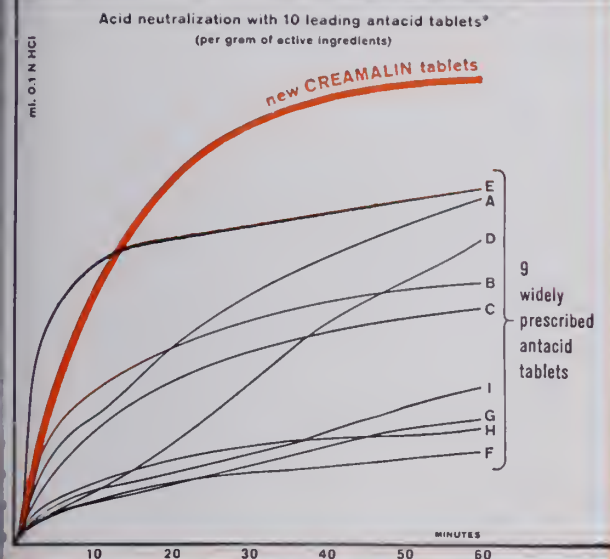
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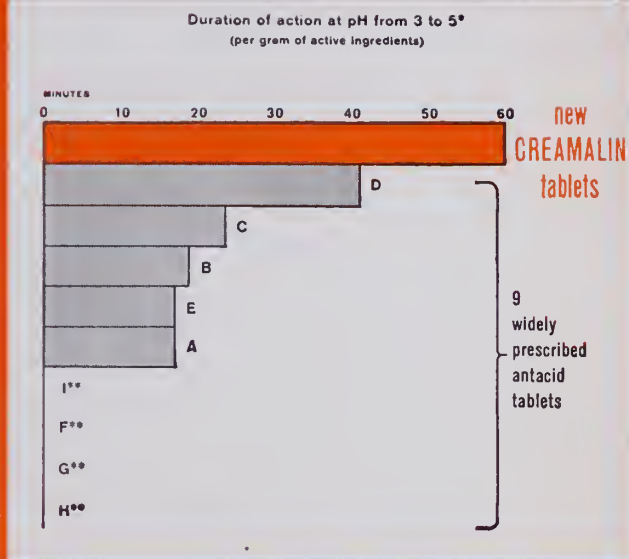


CREAMALIN NEUTRALIZES MORE ACID FASTER Quicker Relief • Greater Relief



*Tablets were powdered and suspended in distilled water in a constant temperature water bath (37°C) equipped with mechanical stirrer and pH electrode. Hydrochloric acid was added as needed to maintain pH at 3.5. Volume of acid required was recorded at frequent intervals for one hour.

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*Minkel, E. T., Jr., Fisher, M. P. and Talanter, M. L.: A new highly reactive aluminum hydroxide complex for gastric hyperacidity. To be published.

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d-amphetamine
depresses appetite
and elevates mood



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overstimulation

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insomnia

...without
barbiturate hangover

Each coated tablet (pink) contains:

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meprobamate 400 mg.

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tranquilization

anti-emetic

greater specificity
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—divorced from such
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—explains why

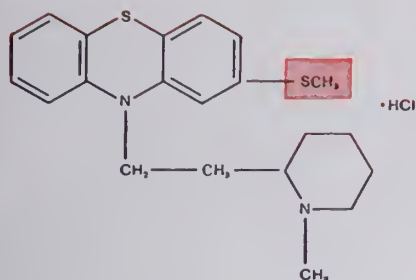
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THIORIDAZINE HCl

is virtually free of such toxic effects as • jaundice • Parkinsonism • blood dyscrasia

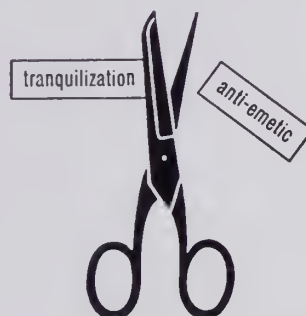
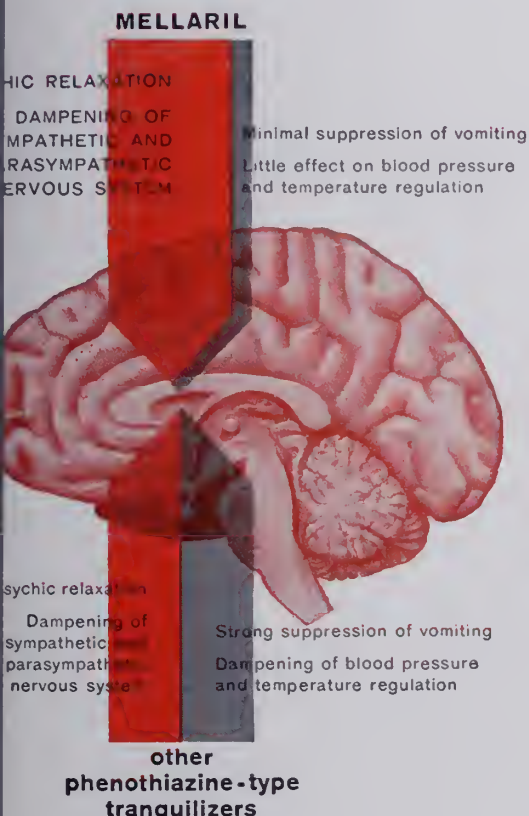
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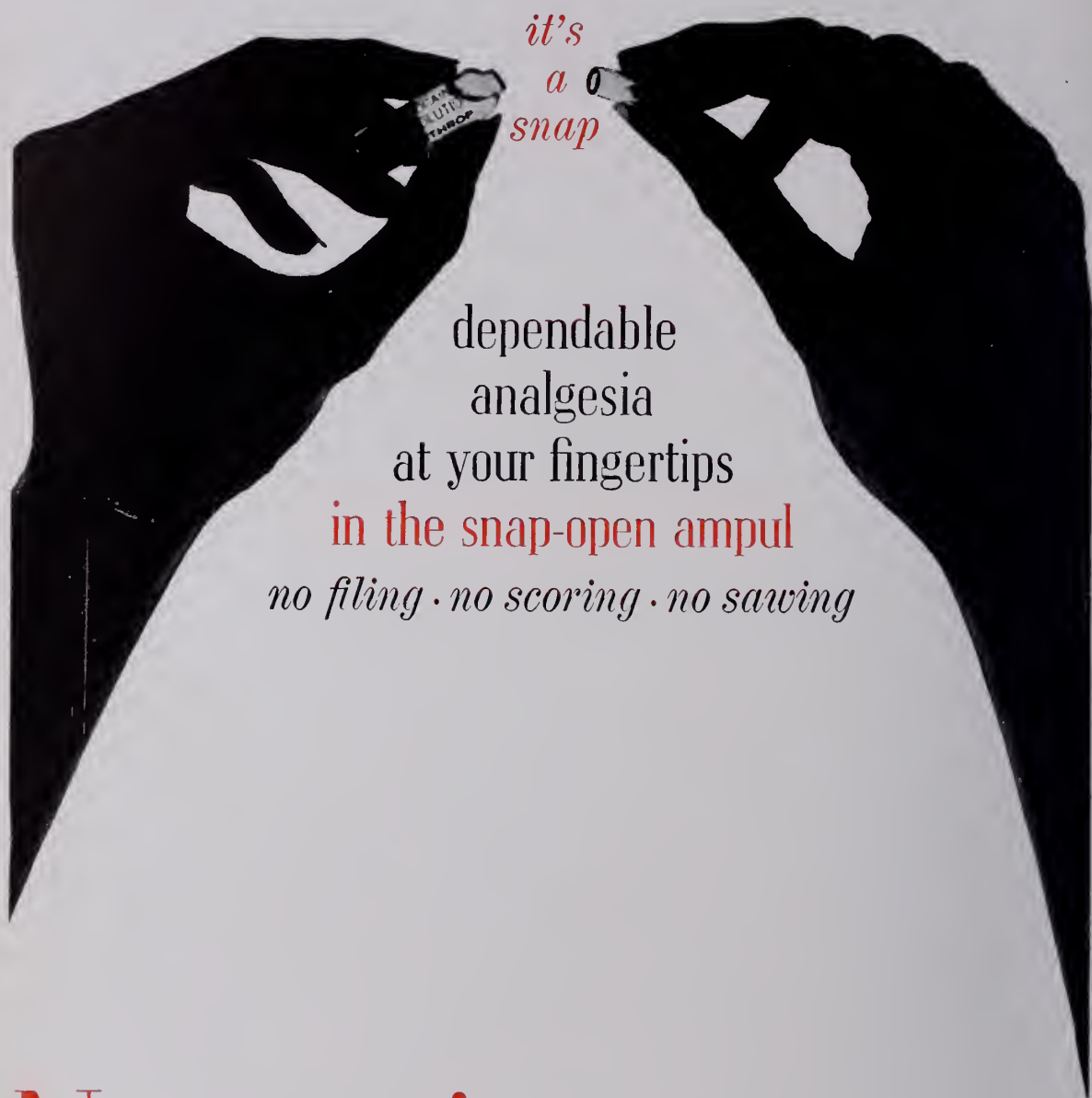
- 1 A specificity of action on certain brain sites in contrast to the more generalized or "diffuse" action of other phenothiazines. This is evidenced by a lack of appreciable anti-emetic effect.



- 2 Less "spill-over" action to other brain areas — hence, absence of undue sedation, drowsiness or autonomic nervous system disturbances.
- 3 A notable absence of extrapyramidal stimulation.
- 4 Lack of impairment of patient's normal drive and energy.
- 5 Virtual freedom from such toxic effects as jaundice, photosensitivity, skin eruptions, blood forming disorders.

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	25 mg. t.i.d.	50-200 mg.
	100 mg. t.i.d.	200-400 mg.
	100 mg. t.i.d.	200-800 mg.
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snap*

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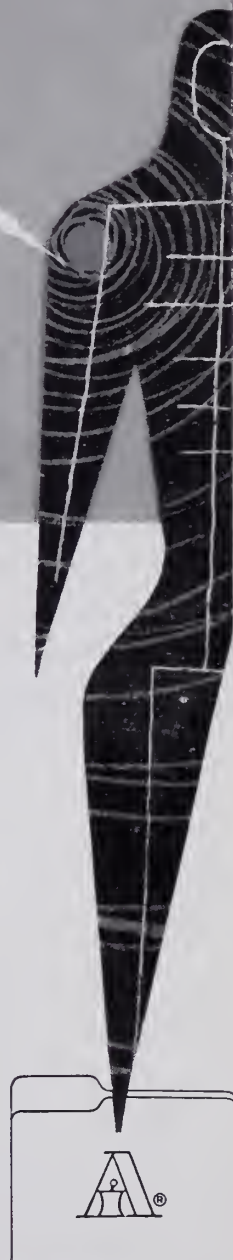
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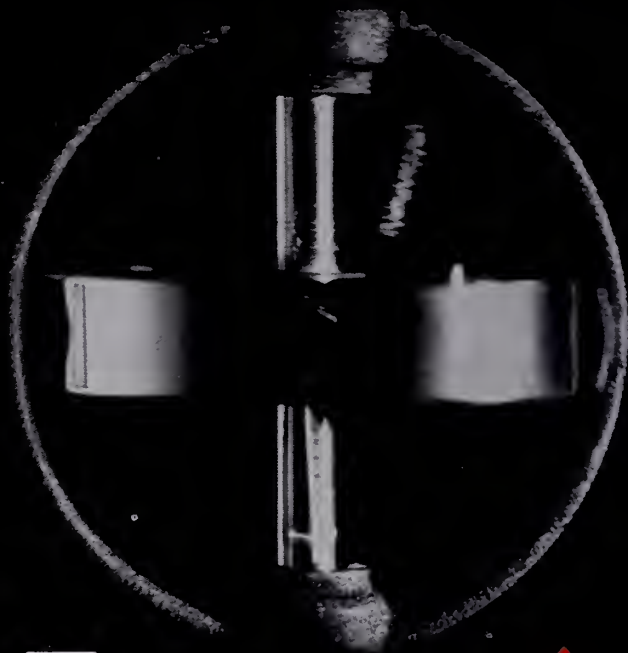
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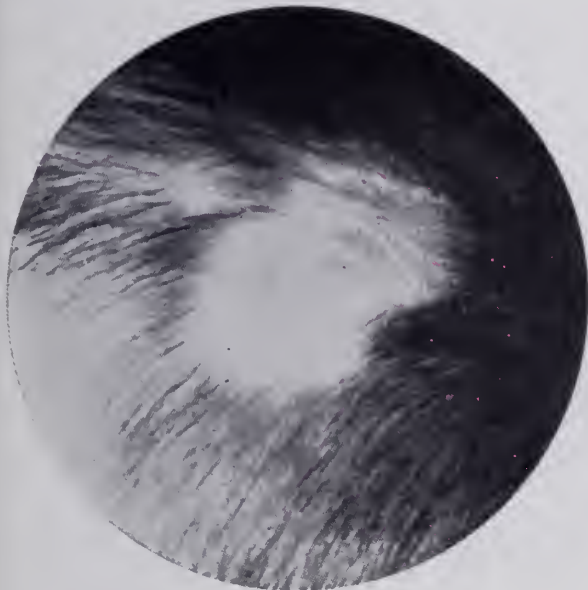
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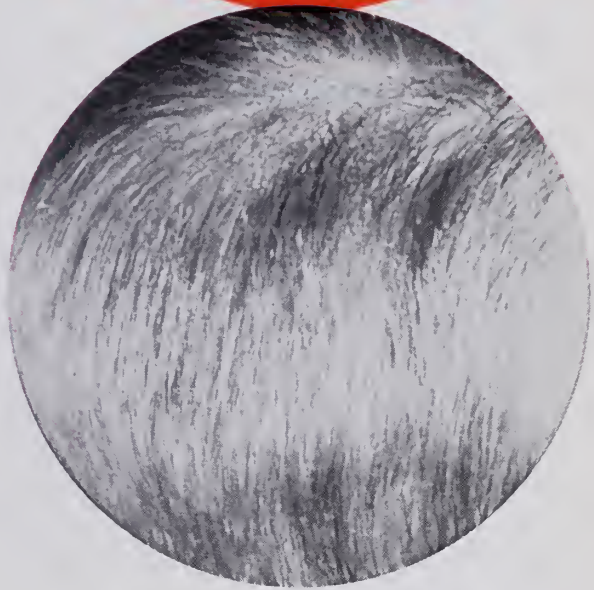


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ADDRESS OF THE PRESIDENT

AT ANNUAL MEETING OF THE
MEDICAL SOCIETY OF DELAWARE
OCTOBER 15, 1959

A. R. SHANDS, JR., M.D.



It has been said that the true physician studies the past, evaluates the present, and plans the future. With this thought in mind, your speaker will first say a word about our past, for without the past some say that "man's soul is purblind, seeing only the things which almost touch his eyes."

On the occasion of the 150th anniversary of the founding of the Medical Society of Delaware, there was published an excellent and detailed book titled, *A Brief History of the Medical Society of Delaware, 1789-1939*, written by its president, Dr. Meredith I. Samuel. This is by far the best account we have of our past. I have re-read this carefully in the preparation for this address and cannot help but feel in reading this a sense of pride in the history of our Society and a deep sense of appreciation to Dr. Samuel for the many long hours he spent in so carefully recording our heritage.

The leader of the twenty-seven physicians who acted as incorporators of the Medical Society of Delaware in 1789, undoubtedly physicians who "cultivated" medicine of that day "with ardour and diligence," as mentioned in the Act of Incorporation, was none other than James Tilton, born in Kent County in 1745, but living most of his life in Wilmington. He was elected the first president and remained so for thirty-three years, until he died in 1822 at the age of seventy-seven. Dr. Tilton was not only the most outstanding doctor in Delaware in his day, but also was considered by many to be one of the three great physicians in the thirteen original States; the other two being the renowned teacher, Benjamin Rush of Philadelphia, and the well-known John Warren of Boston. One of the finest compliments paid Dr. Tilton was by George Washington who spoke of him as "a gentleman of great merit." In the Revolutionary

War he was in charge of four hospitals located at Princeton and Trenton, New Jersey; New Windsor, Maryland, and Williamsburg, Virginia; and in these hospitals he established isolation wards for contagious diseases, the first ever to be opened in any hospital. During the war he declined a professorship at the University of Pennsylvania School of Medicine, the first and foremost medical school of our new country, an indication of the esteem in which he was held by his alma mater from which he graduated in 1771. He wrote an excellent book on military medicine and probably on account of this was asked to be the first surgeon general of the United States Army, being appointed during the War of 1812 and occupying this position from 1813 to 1815. James Tilton is the number one physician in Delaware's Medical Hall of Fame and in the Brandywine Cemetery is a beautiful monument to his memory, erected by the Medical Society of Delaware. So, first, in this address I, as the 108th president, wish to salute and pay tribute to the greatest of the greats in our past, our first president, James Tilton.

With the incorporation of our Medical Society, it became the third State Medical Society in the United States, the first being New Jersey, organized in 1766, and the second Massachusetts. By 1800, seven of the thirteen states had societies. Tilton was succeeded in the presidency of our Society by James Sykes, who, twenty-one years before, had been the Governor of Delaware. In the early days of the Society many of the presidents succeeded themselves or were re-elected after a period of years. One of these was James Couper, Jr., president from 1835 to 1841, again from 1843 to 1845, and, finally, twenty years later in 1864-65. In 1863 he was a vice-president of the American Medical Association. The only Delaware doctor to have been president of the American Medical Association is Henry Ford Askew, who was president of our Society on two occasions—from 1851 to 1855 and, then, 1875 to 1876. He was president of the AMA in 1867 and, incidentally, was the founder and first pres-

ident of the Historical Society of Delaware in 1873. At the time that Dr. Askew was president of the AMA, a doctor was Governor of the state of Delaware, the Honorable Gove Saulsbury, who had been the president of our Society from 1861 to 1862.

In 1863 the Sussex County Society was organized. This was our first County Society. The New Castle County Society was not organized until 1901, and the Kent County Society in 1916. It is rather interesting to me, an orthopaedic surgeon, that during the War Between the States, a Delaware physician and Union Army surgeon, Dr. William Marshall, of Sussex County, president from 1869 to 1870, performed the first successful resection of a humerus. In his early medical career, Dr. Marshall went to California in the Gold Rush Days of 1849 and was at one time both the sheriff and doctor of Hangtown, California, an unusual name for a town as well as an unusual combination of vocations. William Marshall's son George was a prominent leader in the Republican Party in Lower Delaware and became the insurance commissioner as well as ex-officio banking commissioner of Delaware. He was president in 1886-87, and two of his sons were prominent in Sussex County medicine many years later.

Dr. Ezekiel Dawson, president, 1880-1881, and an unusual English scholar, wrote a very thought-provoking presidential address. Among the many things he said was the following: "I deem it to be the duty of every physician as far as opportunity avails, to aid in developing the science of his choice. No one ought to be willing after adopting such a noble calling to plod along an old beaten track of routineism, nor to run the wheel of his energies in a muddy rut of self-sufficiency." It is certainly most appropriate to say that every physician should aid in the developing of the science of his choice, but how many of us do? Being in a "track of routineism" or getting into a "muddy rut of self-sufficiency" may be due to intellectual laziness and this should not be a difficult situation to remedy

with the many opportunities we have today for graduate education. But there must be a "will-to-do," to come out of this "track" and "rut," a something which every one must discover within himself.

We find in our past that eighty years ago a State Board of Health was established by Act of Legislature on March 13, 1879, a memorable occasion for the state. Fifty years ago the Delaware State Medical Journal was founded. Dr. William Edwin Bird was the editor of this Journal for forty years (1916-1956), and to him our Society owes a great debt of gratitude, for he not only put our Journal on a firm footing but also ran the Society as secretary for eight years. When he died in 1956, he was the oldest editor from the standpoint of service of all the editors of State Medical Journals.

The present Delaware State Hospital at Farnhurst was opened seventy years ago in

1889; however, over a century before in 1785, its predecessor in the form of a County Almshouse, had been opened in Wilmington. Fifty-eight years later in 1843, a special building was erected in connection with the County Almshouse to house the insane. In 1848 a small hospital was built adjacent to these buildings for sick immigrants. It was used to receive smallpox patients during the epidemics and it is sometimes referred to as the "Smallpox Hospital." The first general hospital was a military one; it was a frame building with 350 beds and was built in 1863 in Wilmington at 10th and West Streets by the Delaware Association for the Sick & Wounded Soldiers. It was fittingly called the Tilton Hospital. Appropriately enough in the last war one of the finest of the Army hospitals was the Tilton General Hospital at Fort Dix, New Jersey.

In 1871 Heald's Hygeian Home was opened by Drs. Pusey and Mary Heald at



The nucleus of the Wilmington Memorial Hospital was known in 1871 as Heald's Hygeian Home, a private health institution situated at Shallcross Avenue and Van Buren Street, Wilmington.

Shallcross Avenue and Van Buren Street and ran as a private health institution for fifteen years. It is stated that over 7,000 patients were treated from every state in the Union and many foreign countries—quite a record. In 1888 Heald's Home was bought by a group of women interested in homeopathic medicine and opened as the Homeopathic Hospital; the name being changed in 1940 to the Memorial Hospital. Two years later in February, 1890, the Delaware Hospital opened. The Wilmington General Hospital first admitted patients in 1909, the Beebe Hospital in 1916, the St. Francis Hospital in 1924, the Kent General in 1927, the Milford Hospital in 1938, and the Nanticoke in 1945. In addition the Veterans Administration Hospital was established in 1946 in the old New Castle Army Air Force Hospital at the Air Base of this name; it moved into its present new building in 1950.

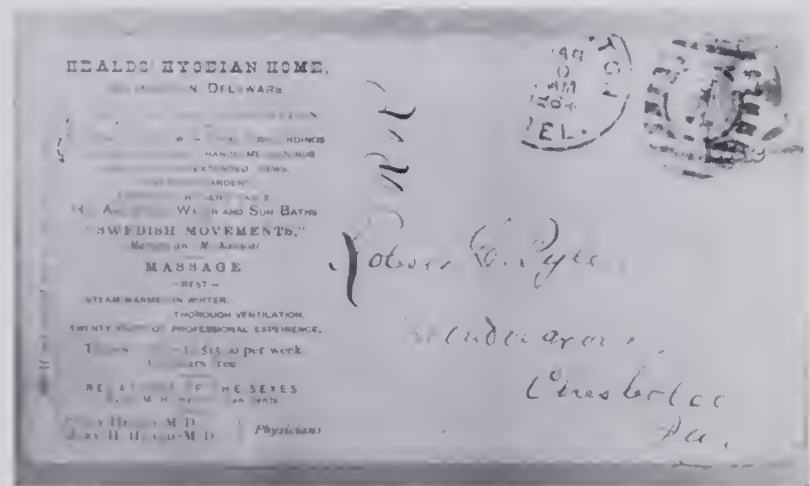
It is surprising that there is no record of a medical school in Delaware, when a state such as Missouri in the latter part of the 19th century had forty-two schools of medicine. In the United States between 1872 and 1890, the incredible number of 114 new schools were established. In the early days most of the physicians of Delaware were educated in Philadelphia, particularly at the University of Pennsylvania, where medical education was at its best. So, with these few remarks from our past, the heritage of which we should always hold dear, next in order is a word about the present and future.

Delaware, with its nine general hospitals containing 1,938 beds, four in Kent and Sussex and five in New Castle, has excellent general hospital facilities. The special facilities for mental diseases, tuberculosis, crippled children and convalescent care have 3,218 beds, making a total for the state of 5,146 beds. The institution for the mentally retarded at Stockley, with its new M. A. Tarumianz Hospital Center which opened in June last, and the unusual facilities in our Governor Bacon Health Center for emotional problems in childhood, cere-

bral palsy, alcoholism, epilepsy and many other conditions, are most important segments of our in-patient services. Then, too, the Old Age Home at Smyrna, with its hospital facilities, is excellent. These institutions well provide for the hospital needs of our population and the practices of our physicians. In addition to the institutions, the state has well-organized crippled children's clinics, maternal and child health (MCH) centers and many other special clinics, such as those for cancer, tuberculosis, heart, etc. In the Eugene duPont Memorial Convalescent Hospital we have a facility, the like of which very few states can boast. Its in-patient rehabilitation service and the Curative Workshop for outpatient service give Delaware excellent facilities in the field of physical medicine and rehabilitation. The latest addition to the state's facilities for rehabilitation of the handicapped is our Sheltered Workshop, the Opportunity Center; it has now ninety trainees and workers representing all types of handicapping conditions. Of these institutions, facilities and services, we can be justly proud, but the medical profession and its State Medical Society have a challenging responsibility—a responsibility to improve and advance the quality of service given to those in need of medical care in and out of these institutions, and responsibility is defined as "an obligation, trust and duty"—a very serious charge.

For a doctor to be able to improve and advance the quality of service, he must accept the principle of continuing education. It is an ongoing and never ending process. He must look upon himself as a perpetual student. If he does not, he may easily slip into that "muddy rut of self-sufficiency" as mentioned by Dr. Dawson. It is the duty of the Medical Society to make this continuing education possible to the utmost of its abilities. This is being done through seminars on selected subjects, Medical Society meetings, and beginning this fall, a two-way radio teaching program of 30 hours between the Continuing Education Division of the Pennsylvania Hospital in Philadelphia and nine stations in Delaware,

The unusual features of Heald's Hygeian Home are advertised on this card, postmarked March 10, 1884, Wilmington, Delaware.



seven of which are located in our hospitals. This latter is an experiment which it is hoped the doctors will like, get something out of, and want to continue.

Too much emphasis cannot be placed upon the part the general practitioner plays in medicine in a community. He is the first line of medical practice, the first one to establish the doctor-patient relationship, and the soul of good practice. What he does and says is what the general public most often judge the whole medical profession by. In Delaware we have a very strong and active Academy of General Practice, which since its organization has enthusiastically supported graduate education programs.

Each physician, general practitioner, and specialist, alike, must adopt high standards of medical care and conscientiously strive to live up to these in his practice. A doctor should always dedicate his efforts to the achievement of excellence in maintaining these standards of care and never compromise with this principle, for if a compromise is made, mediocrity in practice results.

It has been said that the four essential parts of a physician are tolerance for his fellow man, humility in what he is doing, sincerity to all, and honesty, and to these four should be added common sense, without which a good doctor cannot function. A physician's honesty should apply to constant evaluation of his practices as well as

his capabilities and skills in medicine, always aware of his limitations. For a doctor to attempt certain surgical procedures without being properly trained, or to treat patients with new and uncertain drugs before these drugs are proven to be safe and better than the old, is not rendering good medical care. Delaware is blessed in this day and age with doctors in every field of medicine. In two decades the membership of our Society has increased from 228 to 424, and among our new members are young and well-trained men from the best of medical centers, doctors who are qualified to do almost everything in the practice of medicine and surgery. The skills and capabilities of our new men should be slowly integrated into the practice of medicine in our communities to insure the best quality of practice of which we as a medical profession in Delaware are capable.

This frequent and conscientious evaluation of our individual practices should be extended to apply to the programs and activities of our Medical Societies. Your State Society, guided by its Council, has been doing what it thinks it should do. It has by no means done all which could be done, but measures up well to what a society can do in a small state. The Society has always enjoyed good relationships with the American Medical Association and the AMA is constantly called upon for advice and counsel. The many reports which come



The Tilton Hospital, with its stockade appearance, was the first general hospital in Delaware, built in 1863 at 10th and West Streets for the Sick and Wounded Soldiers, named for Dr. James Tilton.

in from the AMA office are carefully studied by our executive secretary, discussed with the president, and referred to the appropriate committee for action and recommendation.

During the past year there have been a few very active committees. Particularly pleasing is the activity of the Committee on the Aged. The focus of this meeting today, as you can see from your programs, is on our senior citizens. This afternoon we have five, extremely well-qualified, out-of-state speakers—two AMA presidents who have been particularly interested in the subject—to bring you the latest on the geriatric problems of practice. Our aging population and how to keep it well and happy presents the greatest challenge medicine has today and will be even more so in the years to come. Our Society must plan and plan adequately to meet this challenge.

Your speaker is particularly interested in what is going on in rehabilitation. The Eugene duPont Hospital services are our latest and best. Each one of us should be proud of what Dr. Arthur Heather has

been quietly and efficiently doing for the severely handicapped of our state in this institution and see for himself his program. Our Curative Workshop, under the leadership of Miss Eleanor Bader, has developed into a really great institution for a physical restorative service in a community. It is nationally known and many from afar come to see what is going on. With the realization by Delaware physicians of what good rehabilitation can do for a patient, how many days lost from work and normal activity it can save, and how much sooner many patients can be made ambulatory and happier, it is hoped that these services may be better and more often used by all. Our hospitals have become crowded and many patients could be as well cared for in the home as in the hospital with the better use of the home care and rehabilitation services now existing.

One of the things your speaker wishes to bring to your attention is the one-year term of office of the president. One year is not enough for a president of a state society to show much in the way of accomplishment. It takes two months or more to become

oriented and to take hold of the office. By the time a good start is made on a worth while and productive program, the year is over. In the early days of our Society there were many presidents who had terms of two or more years; in fact, there were only eight presidents in the first fifty years. I would like very much to see the term of office of the president increased to, at least two years and preferably three. This principle has been accepted by our own Academy of Medicine and many special societies, and other organizations.

One of the best actions our Society has taken in recent years was the establishment in 1956 of the office of the executive secretary on a full-time basis. After this year of working so closely with Mr. Lawrence C. Morris, it is hard for me to realize how the Society functioned adequately before this office was created. The association I have had with our executive secretary has been

most satisfactory and one of the most pleasant experiences of my term of office. Mr. Morris has always been a ready listener and a willing worker with vision and imagination. He has an unusually good grasp of the part a State Society should play in the practice of medicine and in its relationships with the AMA, and to Mr. Morris I wish to sincerely express my appreciation for his excellent services during my term as president.

So, I bring these rambling remarks to a close, first, with the wish that the few ideas I have given may stir up your thinking and imagination on matters pertaining to Delaware's practice of medicine and, secondly, with the hope that our leaders may always have the right vision, that vision so necessary to put our responsibilities into proper focus, essential for progress and better medical care.

CLINICAL CENTER STUDIES

The National Institutes of Health, Bethesda, Maryland announce 4 clinical center studies. The cooperation of all interested physicians in referring patients for these investigations is being solicited.

THYROID CANCER

For the study of carcinoma of the thyroid gland, the Radiation Branch requires patients in whom diagnosis is established but who are not in the terminal phase of the disease.

CHONDROSARCOMA

The primary purpose of this study is to determine the possible affects of large doses of radio-active Sulphur—35 on patients with inoperable but accessible (for biopsy) chondrosarcoma. Physicians interested in these two studies may contact: Charles G. Zubrod, M.D., National Cancer Institute. (Telephone OL 6-4000, Ext. 4346.)

CHILDHOOD SOLID TUMORS

The tumor types of particular interest for this study include Wilms' tumors, neuroblastomas, rhabdomyosarcoma, sarcoma botryoides and the lymphomas. Contact: Dr. Clyde O. Brindley, National Cancer Institute (OL 6-4000, Ext. 4252).

HYPERTENSION

The National Heart Institute is interested in patients having moderate to severe hypertension which is either primary or renal in origin. Contact: Dr. Louis Gillespie, Jr., National Heart Institute (OL 6-4000, Ext. 3175).

REMARKS OF JOHN A. PERKINS, Ph.D.*

AT THE DEDICATION OF THE DELAWARE ACADEMY OF MEDICINE

It is always a significant and happy occasion when a building project is completed and dedicated or rededicated to a useful purpose. This is such an occasion.

The completion of the addition to the Delaware Academy of Medicine building is particularly significant. The building commemorates the past. In the present it provides a more useful home for the Academy. Its improved accommodations may inspire its users to future activities to meet professional and community needs, especially medical ones.

This structure, as most everyone present is aware, was originally built in 1816 as the Sixth and Market Street home of the old Delaware Bank. Its handsome "federal period" appearance aroused to action those civic minded persons who combined a love of beauty and a rich sense of history when in 1931 it seemed that the structure must be razed. They held it should be relocated on this site.

Simultaneously, local medical leaders were equally determined. They were inspired, however, by the demands of science and technological advancement. In spite of the onset of the Great Depression they sought to meet several community needs: Twenty-five years ago there was no medical

library in the State of Delaware. Secondly there was no home site for the various medical societies and societies allied to medicine. Thirdly, residency programs had not yet developed in the hospitals of the community; finally, there was a particular, but indeed an ever-present need, to stimulate and direct continuing post-graduate medical education. Courses, lectures, symposia and panel discussions were necessary for would-be up-to-date practitioners. Citizens, it was believed, could also benefit from lectures on broad public and personal health topics. In response to these identified needs, the Delaware Academy of Medicine was brought into being. At its founding there were only sixteen members. Today, there are three hundred and twenty members comprising about eighty percent of the Wilmington physicians. Not to be confused with local and state medical societies, this type of voluntary association and its activities are *usually* found only in large cities such as Philadelphia, New York, and Toronto.

The extent to which the Academy has successfully met the needs which first brought it into being can only be suggested. From nothing, the library has grown to 10,000 volumes. It now receives nearly 200 medical periodicals annually. Naturally, greatest use of the library is by the health

*President, University of Delaware.

related professions. It also serves lawyers, industries, University students and faculty and neighboring research agencies. Even secondary school youth preparing for Science Fair participation find the library of value. The enlarged building gives the library facilities for housing twice as many volumes and a larger reading room. Well over a hundred meetings are now held annually in the Academy building. Inevitably a larger number will be held in this beautiful, enlarged auditorium. The Academy sponsors four public health forums annually which have brought before the Delaware public such authorities as Drs. William Menninger and Paul Dudley White. When the eminent English physician, Dr. John B. Scadding, was in this country recently, the Academy alertly invited him to address one of these forums. I recently read Dr. Lewis B. Flinn's paper on the Academy which he wrote six years ago. Two comments of his, related to both educational and library activities, stick in my mind and I will enlarge upon them in a moment. First, he pointed out that the development of residency programs within certain departments of some of the hospitals had necessarily brought about educational programs in them. As a result, specialty groups after World War II do not hold sectional meetings at the Academy *as they once did*. Secondly, he recognized that busy practitioners have little leisure time to go to the Academy reading rooms. Dr. Flinn envisioned and commended establishment of an extern service under which books—upon telephone request—would be delivered to the physician's home, office or hospital, and an inter-library loan service which universities and their scholars have found of great aid in extending the limited resources of any single library. It is most gratifying that these important extensions of the library have developed.

To mention these developments from years past suggests to the layman thoughts about the future.

Seldom does any organization achieve *all* that it might. According to the cynical Englishman, T. Northcote Parkinson, oc-

cupation of new and beautiful facilities in-and-of themselves may mark the *decline* rather than the *increase* of creative accomplishment. Parkinson's Laws are intriguing generalizations. But they are only worthy admonitions, not tested truths. With a library twice as large, will the doctors read twice as much? Will this enlarged auditorium and the other facilities for meetings attract proportionately larger audiences and with greater frequency? In view of the rapid growth of knowledge in the biological sciences of which medicine is a practical manifestation, the answers to both questions *should be* an unequivocal "yes."

In the future the library should be, even more than it is today, the heart center of the Academy's activity. Its importance to responsible and conscientious practitioners in an age of exploding scientific discovery cannot be over-emphasized. At the turn of the century when there was so much less for doctors to know than now, Sir William Osler admonished: "*For the . . . practitioner, a well-used library is one of the few corrections of the premature senility which is so apt to overtake him . . . It is astonishing with how little reading a doctor can practice medicine, but it is not astonishing how badly he may do it.*" As an educator, it is with great forbearance that I do not launch into the subject of how to read more rapidly and more widely. It is skill, however, to be acquired for the improvement of your art quite as certainly as doing ward rounds." Again, Osler's words make the point: "*To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all.*"

Now as to the future of the Academy as a meeting place. We must, as laymen and professionals alike, find satisfaction in the extent to which our local hospitals have become teaching institutions. Regret must, however, still be expressed that they are not *all* fitted out in *all* departments with a complete complement of interns and residents. This is not possible nor is it likely to be if the board men, or recognized specialists, in each hospital are concerned for only their

own service in the hospital where most of their work is done. Today's members of this Academy must be as concerned with the improvement and strengthening of all medicine in this geographic area as were its founders. A pioneering but necessary step for today would be to bring about an integration of the specialists among all the hospitals. The result would be a strengthening of the total hospital resources by reason of a community-wide, inter-hospital teaching program in every medical specialty. Then this building might once again be the home site for sectional meetings, a true educational center of the total profession. The greatest significance would be the end result. We would not then have hospitals only partially staffed and, in some respects, limping along rather than running strong as teaching institutions. Instead, we would have complete community of teaching and well-taught physicians practicing in completely staffed hospitals—all teaching ones. Of course, better medical care for patients would follow. Most of today's good realities are but yesterday's dreams. The poet O'Shaugnessy wrote that dreamers

"... are the movers and shakers of the world."

To suggest one idea that would call for a little professional cooperation and coordination prompts another that calls for a lot of the same spirit. I am embolden to my second suggestion for the future by reason of the Academy's record of enlightening the public about specific diseases and public health in general. A movement has already been initiated by the leadership in some cities, to shift planning in the hospital and other health services from a single institution or activity approach to a *community-centered* and *total health needs approach*. Historically the earlier way was necessary to the adequate development of individual programs and facilities. Comprehensive and long-range planning is not a Russian or foreign idea, it was literally invented by large and complex industries in the United States. It should be emulated in our public affairs.

Population in Delaware is expanding at both ends of the age spectrum. The remainder of the people now in their working years are of necessity burdensomely levied upon to care for more youth and more geriatric cases. Rehabilitation opportunities have grown especially through advances in physical medicine and mental therapy. There is so much to be done. There is so little in manpower and resources to do it all, in even a comparatively rich community. Only if no effort is duplicated and no money wasted, can hospital beds, outpatient centers, diagnostic and treatment centers, chronic disease and nursing and convalescent homes, and rehabilitation centers be established in adequate numbers. To staff these health facilities, more also needs to be known about the adequacy of supply and training of technical personnel in the health field.

From a strictly public health standpoint, burgeoning suburbs such as we have in New Castle County call for development of master plans and keeping them up to date relative to water supply and sewage disposal facilities. Our plans will need coordination with the larger metropolitan area, aptly called Pen-Jer-Del. In most urban jurisdictions with growing populations, archaic ordinances and statutes exist with respect to food, milk and sanitary inspection, not to mention disease reporting. Health research and its financing perhaps is a problem too. It is receiving community-wide attention only in larger cities.

It is my hope that the Delaware Academy of Medicine and the Academicians will show their gratitude to the donors of this enlarged and refurbished structure by deeds as well as words. Speaking to our medical friends here, let me say you can do so by making selfless and larger contribution to medical and health progress in Delaware. Follow literally, gentlemen, the stated purposes of your Academy Charter: *"... to foster among its members interest in medical, scientific, literary and educational conditions and to render service without recompense toward these ends..."*

President's Page

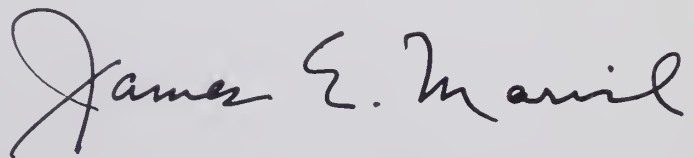
The act of incorporation of the Medical Society of Delaware dates from 1789, and is one of the oldest of its kind in the nation. Particularly interesting are the reasons given for the organization of the state's physicians—that medicine “should be conducted on some permanent establishment of regularity and permanent utility.”

“Permanent utility” is a broad phrase, offering a lot of latitude. To mean anything, it has to mean that the Society should change with its time, shifting program to meet responsibility, emphasis to meet need, but *not* principle to meet expediency.

The Journal AMA noted in November that this might be called one of those centuries when everything goes wrong. It's a wonderful century, of course, but it's a highly accelerated one, and nothing changes faster than the doctor's needs and responsibilities.

Trying to meet them, the Society has executed a quick shift from “scientific and professional organization” to “business league” for tax purposes, while simultaneously developing an excellent scientific and professional program, resources considered. Mobility of resources has become important, and the recently-adopted commission structure will, many of us think, allow us to utilize our assets better than has been done in the past.

The permanence of our utility as a society rests on three bases; professional education and influence, public education and influence, and communication. While I will write more on this from month to month, I want now to express the hope that we, as a profession and as a professional society, may competently and intelligently use these fundamentals, both as means and ends, to accomplish our goals and justify the simplicity with which the General Assembly of 1789 permitted us to chart our own future. I suggest that only through active participation can we expect to achieve this.

A handwritten signature in dark ink, reading "James E. Marvil". The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

President, Medical Society of Delaware

In Brief

Project Hope

The field of international health will have a concrete base when the moth-balled Navy hospital ship *Consolation* is launched as a floating medical center and sent on a year's visit to Southeast Asia. This is the plan inaugurated by the People-to-People Health Foundation and directed toward bringing the latest medical skill developed by the American medical profession to the people of the Far East. The ship will be staffed with a permanent personnel of 15 physicians, 2 dentists, 20 graduate nurses, 20 technicians, and with rotating volunteer units of generalists and specialists who will be flown to the ship for tours of four months. The AMA and the ADA have endorsed the plan publicly and pledged generous support. The added support of the American medical profession as well as that of corporations, foundations and individuals will be needed.

Disturbing Trends

According to the Association of American Medical Colleges, the total number of medical school applicants seems to be decreasing in the face of rising enrollments and graduations. The number entering medical schools with an average grade of "A" is also on the decrease. While the actual number of doctoral graduates in all categories has increased since 1935, the trend is downward in the percentage distribution of doctoral graduates in the biological sciences from 1935 to 1956. A changing pattern of medical school income is also noted. Funds derived from state, university and other sources for medical school expenditures has been building up and the proportion of expenditures for separately budgeted research increased approximately $2\frac{1}{2}$ times during the period 1940-1957.

Memorial

The George W. Merck Memorial has been established in the form of a loan fund to encourage deserving interns and residents seeking the best possible postgraduate training. The loan fund will supplement the stipends available at teaching hospitals. Graduates of a participating medical school may receive an award wherever they are in training. Deserving graduates of other medical schools may also receive an award who are in training in hospitals associated with the participating plan.

Monograph Prizes

Three \$1,000 prizes to be awarded — one each in the fields of the humanities, social sciences and the physical and biological sciences — to authors of unpublished monographs, has been announced by the American Academy of Arts and Sciences, 280 Newton St., Brookline, Boston 46, Mass. Write there for particulars. A monograph is defined as a "Scholarly contribution to knowledge, too long for an article in a learned journal and too specialized for a general book." The final date for receipt of manuscripts is October 1st, 1960.

Industrial Medicine To the Fore

Graduate fellowships in industrial medicine are now being offered by the University of Cincinnati's Institute of Industrial Health. Graduates of approved medical schools who have completed at least one year of internship are qualified applicants. The three-year program leading to the degree of Doctor of Industrial Medicine satisfies the requirements for certification in Occupational Medicine by the American Board of Preventive Medicine. Two other programs of study offered are: a one-year course for the degree of Master of Science and a three-year academic program, leading to the degree of Doctor of Science. Fellowship stipends are available to eligible candidates in all programs. Write to: Secretary, Institute of Industrial Health, College of Medicine, Eden and Bethesda Avenues, Cincinnati 19, Ohio.

See-Saw

While the rate of admission to general hospitals in this country has increased by almost 80% in the last 20 years, the hospital patient of today usually goes home much sooner. This decline in the average length of stay per patient is largely the result of new medical knowledge, early ambulation following surgery, new medical and surgical procedures, and new pharmaceutical products, says the Health Information Foundation. The HIF also reports that children need hospital care less often than they did 20 years ago, largely because admission rates for two common operations, tonsillectomies and appendectomies have declined by about half.

A "First"

Sound advice on how to build an estate for the future of a crippled child has been published by the National Society for Crippled Children and Adults, as a friendly source of guidance for parents of afflicted children, who know they must take unusual measures to protect their children's future. Copies of "Building an Estate for a Crippled Child" are available at 25¢ a copy from all the state chapters.

New Figures

The Society of Actuaries — Institute of Life Insurance — is releasing its 1959 Build and Blood Pressure Study in November. It will make obsolete the table of figures now shown on weighing machines and used by physicians throughout the country. The new weight tables are based on a study covering 20 years of statistical investigation regarding body build and blood pressure. Significant finding shows that women weigh distinctly less than a generation ago, while men tend to be heavier than their fathers — and that weight reduction pays. Those who were overweight when insured, showed a return to normal mortality after reducing in weight.

Complexity Pays

An article in GP points out that the female body appears to be more complex and requires more repair work than the male body, especially in its glandular equipment. It adds, that by the time human life expectancy hits 100 years, there will be five women for every two men.

Editorials

TAKE TIME TO EXPLAIN:

Dr. A. Carlton Ernstene, Chairman of the Division of Medicine of the Cleveland Clinic, once wrote in *Circulation* on the subject of explanation in cardiologic practice. He began by mentioning the great advances in our knowledge of heart disease that have occurred in the past fifty years. He emphasized that the cooperation of a patient — in carrying out proper treatment — could be more easily obtained if that patient were given a clear explanation of the problem and the solution that was to be attempted.

Attention to details by the patient may spell the difference between success and failure in many therapeutic procedures. Drastic changes in habits frequently are necessary in patients with angina; an explanation of the reason for such change is most important. Acute myocardial infarction—a disease that incapacitates a man at the height of his active life—can be tolerated better if the patient knows the reason behind the severe restrictions imposed and has a rough idea of their probable duration. The patient with congestive heart failure will be more cooperative in his sodium restriction if he knows why it is being restricted.

The patient with emotional problems, tension, insecurity, and anxiety symptoms focused upon the cardiovascular system will rationalize his symptoms far better if the physician's reassurance that he has no heart disease is accompanied with an explanation of the cause of the symptoms.

Premature beats and dyspnea — two alarming conditions — can be well tolerated if explained.

The public has been made aware of the great advances in scientific medicine and takes much for granted. They do desire,

however, personal attention from their physician. "There is a desire in each of us to be recognized as an individual, and because of this no one enjoys being looked upon solely as an example of a particular disease or syndrome." Some patients fail to ask questions because of timidity or fear of the answer. The experienced clinician becomes aware of what the patient would like to know; to omit an explanation because of thoughtlessness or pressure of practice constitutes neglect of an obligation to the patient and loss of a most important therapeutic tool.

Doctor Ernstene's editorial contains much wisdom; it applies not only to the practice of cardiology but to the practice of medicine as a whole. So much misunderstanding could be avoided and so many benefits would ensue if we would *take time to explain the problem to the patient.*

AULD LANG SYNE —

1959 was a year of change for The Journal; a change for the better. Many of our members have noted and commented upon the greatly improved format. This new look is due to one person — our assistant editor.

Perhaps at the year's end we should think about any desired changes in content. We have repeatedly stated that this is *your journal* and we want the material to be that which is most helpful to the greatest number of our members. Let us have your criticism — we'll do our best to oblige.

Likewise, we should think about the annual meeting for 1960. Drop President Marvil a line and tell him the type of program that would interest you — it's *your meeting*.

Best wishes for 1960!

Books

The Library of the Delaware Academy of Medicine Accessions from September, 1959

ANATOMY

Netter, Frank H.: Digestive System, Vol 3, Part 1, 1959. Ciba Collection of Medical Illustrations

BACTERIOLOGY

Ciba Foundation: Steric Course of Microbiological Reactions, 1959. Little Brown, Co.

CARDIOVASCULAR SYSTEM

Foley, William T. and Wright, Irving S.: Color Atlas and Management of Vascular Disease, 1959. Appleton-Century-Crofts, Inc.

Rosenbaum, Francis F. and Belknap, Elston L.: Work and the Heart, 1959. Haeber

Spodick, David H.: Acute Pericarditis, 1959. Grune and Stratton

DENTISTRY

Moorees, Coenraad, F. A.: The Dentition of the Growing Child, 1959. Harvard University Press

Moyers, R. E.: Handbook of Orthodontics, 1958. Yearbook

Schwartz, L. H. and Schwartz, S. P.: Effective Dental Assisting, 2nd edition, 1959. Brown

ENDOCRINOLOGY

Sindoni, Anthony M., Jr.: The Diabetic's Handbook, 2nd edition, 1959. Ronald Press Company

MEDICINE

Ciba Foundation: Pain and Itch, 1959. Little, Brown Co.

Dreisbach, Robert H.: Handbook of Poisoning, Diagnosis and Treatment, 2nd edition, 1959. Lange

MISCELLANEOUS

American Medical Association: Digest of Official Actions, 1846-1958. 1st edition, Vol. 1

Cooper, Robert U.: Investments for Professional People, 2nd edition, 1959. Macmillan Company

Cross, Louise M.: Preparation of Medical Literature, 1959. Lippincott

NEOPLASTIC DISEASES

Hamburger, F.: The Physiopathology of Cancer, 2nd edition, 1959. Haeber

NEUROLOGY

Pack, G. T. and Ariel, I. M., eds.: Tumors of the Nervous System, 2nd edition, 1959. Haeber

OPHTHAMOLOGY

Clark, William B.: Symposium on Glaucoma, 1959. Mosby

Lewin, Philip: Foot and Ankle, 4th edition, 1959. Lea and Febiger

PEDIATRICS

Debabian, Annatole: Neurology of Infancy, 1959. Williams-Wilkins Co.

PHARMACOLOGY

Foulger, John H.: Chemicals, Drugs, and Health, 1959. Thomas

Searle Research Laboratories: Proceedings of a Symposium on Enovid, 1958. Searle

RADIOLOGY

Merrill, Vinita: Atlas of Roentgenographic Positions, 2nd edition, 1959. Mosby

SURGERY

Kazanjian, Varaztad H. and Converse, John Marquis: The Surgical Treatment of Facial Injuries, 1959, 2nd edition. Williams and Wilkins

Moore, Francis D.: Metabolic Care of the Surgical Patient, 1959. Saunders

Ochsner, Alton and DeBakey, Michael E., eds.: Christopher's Minor Surgery, 8th edition, 1959. Saunders

Peer, Lyndon A., ed.: Transplantation of Tissues, 1959. Vol. II. Williams and Wilkins

UROGENITAL SYSTEM

Colby, Fletcher H.: Pyelonephritis, 1959. Williams and Wilkins

TWO-WAY RADIO CONFERENCES FOR THE COMING MONTH

Sponsorship: *Medical Society of Delaware, Pennsylvania Hospital, Smith Kline & French Laboratories.*

Date Topic and Faculty

Dec. 22 — "New Drugs in Therapy of Hypertension" Garfield G. Duncan, M.D.

Dec. 29 — "Radio-Isotopes in Thyroid Dysfunction." George R. Fisher, III, M.D.

Jan. 5 — "Modern Therapy of Peptic Ulcer." Alexander Rush, M.D., Gastroenterologist to Pennsylvania Hospital.

Jan. 12 — "Hormone Therapy in Carcinoma of the Breast." Charles H. Cretzmeyer, Jr., M.D., Assistant Surgeon to Pennsylvania Hospital.

Jan. 19 — "Current Status of the Chemotherapy of Malignancy." Edward H. McGehee, M.D., Hematologist to Pennsylvania Hospital and Physician to the Hospital.

REPORT OF PROCEEDINGS

THE HOUSE OF DELEGATES

MEDICAL SOCIETY OF DELAWARE

The House of Delegates meeting of the Medical Society of Delaware was called to order at 3 o'clock p.m., Sunday, October 11, 1959, President Alfred R. Shands, Jr., M.D., presiding.

PRESIDENT SHANDS: The meeting will come to order.

We have a great deal of business this afternoon and immediately following there is a supper served downstairs for the delegates and all those in attendance.

The first order of business is the roll call and the Secretary will proceed with that.

Secretary Cannon then took the roll call.

SECRETARY CANNON: There is a quorum present.

PRESIDENT SHANDS: The next order of business is the minutes of the last session. Mr. Secretary.

SECRETARY CANNON: The minutes were published in the State Journal, sir, and I would like a motion to have them approved as printed.

A motion was made, seconded and carried to approve the minutes of the last session.

PRESIDENT SHANDS: The next item is the report of the officers, the first being the President's report. He will give the so-called President's address at the first session on Thursday. At this time I wish to say that I think we have had a very successful year on the whole. There have not been too many controversial subjects. You will hear reports of the other officers and reports of the committee chairmen and the other business which will really constitute what a President's report should have.

The next report is that of the Secretary.

REPORT OF SECRETARY

The office of the Secretary has been conducted on a current basis during the past year. Minutes of the Council meetings have been kept.

Respectfully submitted,
NORMAN L. CANNON, M.D.

This report was accepted.

The next is the Treasurer's report.

DR. CHARLES LEVY: The audit report of the Medical Society of Delaware has been prepared by the accounting firm of Hagerty & Hagerty, Certified Public Accountants in the City of Wilmington.

Our financial condition is reported excellent. The present statement is for the year July 31, 1958, to July 31, 1959. The Society, however, must return to our previous fiscal year of accounting, that is, January 1 to December 31, and this follows the directive of the Internal Revenue Service.

I do not have a sufficient number of these reports from Hagerty & Hagerty to hand out to everyone here. However, those on the financial and budgetary committees will receive copies of this report.

REPORT OF THE TREASURER

October 8, 1959

Member of Council
Medical Society of Delaware
Wilmington, Delaware

Gentlemen:

We have examined the financial records of the Treasurer of the Medical Society of Delaware and the Delaware State Medical Journal for the year ended July 31, 1959, the results of which are included in this report, consisting of the commentary and the following statements:

Title:	Exhibit and/or Schedule
Balance sheet at July 31, 1959	A
Comparative statement of cash receipts and disbursements for the years ended July 31, 1959 and July 31, 1958:	
General fund	B
Delaware State Medical Journal	C
Budgetary statement of revenue and expenditures for the year ended July 31, 1959:	
General fund	D
Statement of securities owned at July 31, 1959 and income therefrom during the year then ended:	
General fund	A-1
Reconciliation of dues and A.M.A. assessments for the year ended July 31, 1959:	
General fund	B-1

SCOPE OF EXAMINATION

Testings were made of income and expense factors in both the Treasurer's records and those of the Delaware State Medical Journal to the extent we deemed appropriate in the circumstances. Cash received was traced to deposits in bank and expenditures were verified by reference to cancelled checks and/or vendors' invoices. Cash in banks as of July 31, 1959 was confirmed direct to us by the various depositories and reconciliations were made with the book balances therefor at that date. Securities owned at July 31, 1959 were examined by us at the Bank of Delaware on October 6, 1959, in the presence of Charles Levy, M.D., and income earned thereon, during the period under review, was verified by recomputations or reference to accredited financial publications. Other verifications deemed necessary are commented upon in the ensuing paragraphs of this report.

COMMENTARY

A statement of financial condition at July 31, 1959 is presented in exhibit A; while comparative statements of cash receipts and disbursements, in both funds, for the years ended July 31, 1959 and July 31, 1958 are included herein as exhibits B and C, respectively.

The society maintains three separate savings accounts, the transactions of which are not included in the operating statements of this report, but the changes therein during the year under review are detailed in the following tabulation:

BALANCES,

	GENERAL FUND Wilmington Savings Fund Society	STATE MEDICAL JOURNAL Wilmington Savings Fund Society	WILMINGTON TRUST COMPANY
AUGUST 1, 1958	\$4,961.24	\$3,744.37	\$1,765.54

RECEIPTS

Interest earned	173.64	131.04	17.65
	5,134.88	3,875.41	1,783.19

DISBURSEMENTS

None			
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BALANCES,

JULY 31, 1959	\$5,134.88	\$3,875.41	\$1,783.19
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At the Wilmington Savings Fund Society, interest is currently credited to accounts as of December 31 of each year at the rate of 3½% per annum and the balances in the foregoing tabulation include interest through December 31, 1958. The rate of interest on savings accounts at the Wilmington Trust Company is 2% per annum but, effective in 1959, it will be credited to accounts only once each year at December 31 rather than semi-annually, so that the credit indicated in the foregoing tabulation is only for the six months ended December 31, 1958.

Detailed explanations were not available with respect to deposits in bank under dates of August 15, 1958, August 20, 1958 and October 8, 1958 and, in preparing the operating statements included in this report, we classified the source of these deposits to the best of our ability from other available data.

At its meeting on September 28, 1958, the House of Delegates authorized a contribution of

\$10,000.00 to the Academy of Medicine but, as of July 31, 1959, only \$2,000.00 had been contributed.

CONCLUSION

In our opinion, the accompanying balance sheet and related statements of cash receipts and disbursements present fairly the financial position of the Medical Society of Delaware at July 31, 1959 and the results of the operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with the preceding year.

We wish to express our appreciation for the courtesies extended to us during the course of this examination.

Very truly yours,
HAGGERTY & HAGGERTY
Certified Public Accountants

Exhibit A

MEDICAL SOCIETY OF DELAWARE

Balance Sheet at July 31, 1959

ASSETS

GENERAL FUND:

Cash in bank:

Regular account— exhibit B	\$10,249.55	
Savings account	5,134.88	\$15,384.43

Investment—

schedule A-1:		
Stocks	12,949.08	
Government bonds	13,085.00	26,034.08

Due from State

Medical Journal	300.46	41,718.97
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DELAWARE STATE
MEDICAL JOURNAL:

Cash in bank:

Operating account— exhibit C	8,562.70	
Savings account	5,658.60	
	14,221.30	

Investments—

Government bonds	3,502.38	17,723.68
		\$59,442.65

LIABILITIES AND FUND BALANCES

GENERAL FUND:

Liabilities:

Employees' withhold- ings and accrued payroll taxes	\$ 180.05	
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Reserve:

Defense fund	1,000.00	
Fund balance	40,538.92	\$41,718.97

DELAWARE STATE
MEDICAL JOURNAL:

Liabilities:

Due to General fund	300.46	17,723.68
Fund balance	17,423.22	\$59,442.65

GENERAL FUND

Statement of Securities Owned at July 31, 1959
And Income Therefrom During the Year Then Ended

Face Value and/or Shares		Book Value 8-1-58	Purchases	Sales and Redemption	Gain	Book Value 7-31-59	Income Received Exhibit B
BONDS							
\$7,000	U.S. Savings bonds, series J, dated October 1953, due October 1965	\$ 5,040.00	\$	\$	\$	\$ 5,040.00	\$
8,000	U.S. Treasury notes, 4's, series B-1962, due August 15, 1962	5,040.00	8,045.00	.....	.....	8,045.00	(39.78) C
			8,045.00	.....	.....	13,085.00	(39.78)
STOCKS							
99 shs	Bank of Delaware, capital, par \$10.00 ..	1,725.00A	748.00	\$ 26.50	\$ 26.50	2,473.00	148.30
40 shs	Continental American Life Insurance Co., par \$10.00	1,130.50	.....	.....	.....	1,130.50	64.00
40 shs	E. I. duPont de Nemours & Co., \$4.50 pfd., no par	4,741.03	.....	.....	.....	4,741.03	180.00
70 shs	Farmers Bank of the State of Delaware, capital, par \$5.00	2,800.00B	.....	.....	.....	2,800.00	280.00
15 shs	Hercules Powder Co., 5% pfd., par \$100.00	1,804.55	.....	.....	.....	1,804.55	75.00
		12,201.08	748.00	26.50	26.50	12,949.08	747.30
		\$17,241.08	\$8,793.00	\$ 26.50	\$ 26.50	\$26,034.08	\$ 707.52

(A) Received 49½ additional shares in a 2½ for 1 stock split, sold fractional share March 23, 1959.
Purchased 17 shares June 23, 1959.

(B) Received 63 additional shares in a 10 for 1 stock split.

(C) Accrued interest — date of purchase April 1, 1959.

GENERAL FUND

For the Year Ended July 31, 1959
Reconciliation of Dues and A.M.A. Assessments

	TOTAL		NEW CASTLE		SUSSEX		KENT	
	Members	Amount	Members	Amount	Members	Amount	Members	Amount
STATE SOCIETY DUES:								
Dues received	392	\$18,353.50	311	\$14,617.00	48	\$2,256.00	33	\$1,480.50A
SUBSCRIPTIONS—								
STATE MEDICAL JOURNAL:								
Subscriptions received	392	\$ 1,171.50	311	\$ 933.00	48	\$ 144.00	33	\$ 94.50
Remitted to								
State Medical Journal	399	1,192.50	311	933.00	55	165.00	33	94.50
Difference (B)	(7)	\$ (21.00)	.....	\$ .....	(7)	\$ (21.00)	....	\$ .....
AMERICAN MEDICAL ASSOCIATION:								
Assessments freceived	388	\$ 9,662.50	309	\$ 7,725.00	46	\$1,150.00	33	\$ 787.50
Remitted to A.M.A.	390	9,712.50	309	7,725.00	48	1,200.00	33	787.50
Difference (B)	(2)	\$ (50.00)	.....	\$ .....	(2)	\$ (50.00)	....	\$ .....

(A) 3 members — Kent Society — paid only ½ year.

(B) Differences represent assessments of prior year not transferred until current year.

In summary then, the Society realized \$23,710.08 income for the year. Total expenditures were \$24,001.38, giving \$291.30 as the net figure over-expended for the year.

A motion was made and seconded to accept the Treasurer's report.

PRESIDENT SHANDS: Next is the report of the Executive Secretary, Mr. Morris.

REPORT OF THE EXECUTIVE SECRETARY

A great deal of material is contained in the reports of the various committees, and I believe that you will find the record of the Society's accomplishments and failures within these reports. While it would be repetitious and would serve no useful purpose for me to go into detail about the efforts and special problems of each group, I should perhaps point out that no committee report can present completely the efforts and hours devoted to the projects it describes. Most of these projects have involved staff work to a greater or less degree, and I would prefer to review the highlights of the year's activities and perhaps present dimensions of the Society's efforts that do not appear in the reports themselves.

MEMBERSHIP

The executive secretary reports that the membership of the Society stands at 422, distributed among the counties as follows:

Kent County Medical Society—32
New Castle County Medical Society—332
Sussex County Medical Society—58

NEW OFFICES

A most important event this year has been the moving of the headquarters office to the Delaware Academy of Medicine. This has had a very good affect upon the accessibility of the headquarters office to the membership. Housed as it now is in the same building with the offices of the New Castle County Medical Society and of the Delaware Academy of Medicine, and with adequate parking space, the office is visited by an increasing number of physicians, whose presence has been most welcome and whose suggestions have been most helpful to your staff in evaluating the desires of Delaware's doctors.

ANNUAL MEETING

Another major change will be evident in the format of this year's annual meeting. For the first time in many years there will be no technical exhibits at the annual scientific session. This move has been made at the direction of the Council, and was predicated upon two factors. First, the amount of time spent by the average physician-member at the technical exhibits has raised considerable doubt that the individual doctor wants them continued. Second, the increased cost of erecting special partitions and wiring for technical exhibits substantially decreases the net return from the exhibits, and, when considered with the amount of staff time required to arrange a proper technical exhibit, it is questionable whether the number and the price per unit of the technical exhibits have actually resulted in a profit to the Society.

It is, of course, one of the major responsibilities of a professional society to offer its members opportunities for continuation education. This year's radio conferences, when combined with the

annual meeting and the local seminars of the State Society's Committee on Education, will offer five times the number of hours of education that resulted from the traditional program, and should reach twice as many people. This is probably more realistic for the problems of this particular state. It is, however, experimental and, if the members wish, the meeting can be returned to the traditional basis.

JOURNAL

A third very important development has been the emergence of the Delaware State Medical Journal as a positive financial asset as well as a medium for intra-professional communication. The Journal has found itself able to assume a significant proportion of the operating expenses of the Society, including slightly more than 35% of the total payroll and 50% of the contribution to the Delaware Academy of Medicine, paid in lieu of rent.

With the change in printers anticipated last year, we have been able to return the Journal to its original publication schedule, and have been pleased at the quality of production of the Truitt Printing Company. The Journal continues, by exchange, to provide a major portion of the periodicals in the library of the Delaware Academy of Medicine.

Plans are being made to use the Journal to increase intra-society communication, and to offer more membership features. Among these have been the President's Page, now established as a monthly feature. In the near future, a current summary of Council minutes will be presented for the information of all members.

POLICY

Two major matters of policy deserve mention. One is the issue of closed panel plans, referred to the Society by the American Medical Association House of Delegates. The specific question involves the ethical and intra-professional status of these plans, but the broader and more important implication is the reaffirmation by the American Medical Association that policy must and should emanate from the county and state society level. The other is the Social Security poll conducted in May, resulting in an expression by the membership of a desire for physician-inclusion in the program. Again, the point is that major policy was referred to the membership, rather than to elected bodies.

POLIOMYELITIS

With the large increase in the number of cases of poliomyelitis evident throughout the country early this spring, President Shands appointed a Committee on Polio Immunization which reactivated the polio immunization campaign successfully implemented by the Medical Society, the State Board of Health, and the Delaware Chapters of the National Foundation in 1957 and 1958. While the results of this program are impossible to assess statistically, the fact that Delaware has been one of the very few states in the nation to experience a decrease in polio during 1959 can probably be attributed to the interest and active participation of the doctors.

LEGISLATION

The Society's problems with local and federal legislation have been thoroughly covered in the report of the Committee on Public Laws. The

Society owes a large debt to this committee, of which it is particularly true that relatively little of the actual activity shows in the report. If one lesson can be drawn from the Committee's experience this year, it is that personal participation by physicians to reinforce staff work is the only effective means of exerting a direct and positive influence upon the legislation in which the Society interests itself. The Committee on Public Laws is in the process of laying plans to increase this participation and you will be hearing of these efforts during the year to come.

On a national level, the Forand Bill and Forand-type legislation remains an active issue, contrary to some reports. The fact that both Delaware Senators are on the Senate Finance Committee, to which this bill will in all likelihood be referred if it passes the House, makes it particularly important for local doctors to keep themselves informed on this issue during the next nine months.

COMMITTEE ON AGING

While it is unfortunate that the problems of our aged population should be intimately connected with legislation, it is impossible to separate completely the two while Forand-type legislation remains active. One of our major handicaps in the past has been the lack of reliable information available to anyone on the actual situation of the aged. The Society's Committee on Aging has been working diligently this year to correct the deficiency, and while it cannot be said that the present status of the Committee's work is at all final, it is a direct and positive approach to one of our major medical problems, and should be considered by the Society as such.

GROUP INSURANCE

The Council this year reviewed the experience and rating of the Society's accident and health insurance program, and concluded that it has been well and fairly operated. Therefore, Bertholon-Rowland and Company was authorized to reopen the group for the participation of those members who desire the insurance.

STAFF

The Executive Secretary wishes to express his appreciation to Mrs. Winifred Donnelly and Mrs. Melita Phillips of the headquarters staff for their loyalty and devotion to the purposes of the Society. They have each contributed many uncompensated hours. The staff as a whole wishes to continue to improve its service to the Medical Society of Delaware, and its members are, without exception, engaging in various formal and informal courses to make this possible.

There are inevitably two questions which recur to the staff. They are "What are we doing wrong?" and "What are we not doing that we should be doing?" These are questions that can only be answered by the members themselves, and we hope sincerely that you will give us the benefit of your recommendations and criticisms.

In conclusion, I want to express my own appreciation to the officers and members of each county medical society for their courtesies and hospitality when I have visited them, to the officers of the Medical Society of Delaware for their interest and cooperation during the year, and to the physicians of Delaware as a group for the

privilege of working with them during the year past.

Respectfully submitted,
LAWRENCE C. MORRIS, JR.
Executive Secretary

The report was accepted.

PRESIDENT SHANDS: Next we have reports of standing committees. These are all to be published. Some of them are to be read and some of them are to be read by title only. The first is the Budget Committee.

COMMITTEE ON THE BUDGET

Your Committee on Budget recommends adoption of the following budget for the year 1960:

Receipts		
Dues	\$20,000.00	
Dinner tickets	750.00	
Dividends	650.00	
Contribution		
from D.S.M.J.	1,480.00	
AMA Reimbursement ..	85.00	
		\$22,965.00
Disbursements		
Salaries		
Executive Secretary ..	\$ 8,000.00	
Secretary	3,480.00	
Pay roll taxes	207.00	
		\$11,687.00
Operations		
Journal subscriptions ..	\$ 1,300.00	
Public Laws	200.00	
Committee on Medical		
Service and Public		
Relations	500.00	
Committee on Medi-		
care Adjudication ..	50.00	
Committee on AMEF ..	150.00	
Other Committees	200.00	
Auditor	275.00	
Miscellaneous	200.00	
Woman's Auxiliary	100.00	
		\$ 2,975.00
Office		
Rent	\$ 2,000.00	
Printing	500.00	
Telegraph	500.00	
Miscellaneous	150.00	
		\$ 3,150.00
Travel		
AMA Delegate	\$ 375.00	
AMA — AMSEC		
Conference	265.00	
AMA — Public		
Relations Institute ..	150.00	
Guest Speakers	300.00	
Local	300.00	
Contingency	350.00	
		\$ 1,740.00
Annual Meeting		
Printing	\$ 200.00	
Steno-typist	300.00	
Clerical	45.00	
Janitorial	25.00	
Dinner and Supper	1,200.00	
		\$ 1,770.00
Memberships,		
contributions		
Aces and Deuces		
(AMA)	\$ 25.00	
Conference of Presi-		
dent of State	25.00	
Medical Society Exec-		
utive Association	10.00	

Delaware State Chamber of Commerce	50.00
Delaware State Science Fair	50.00
Institute for Organization Management ..	175.00
	\$ 335.00
Balance unbudgeted for contingency	\$ 1,308.00

The Committee wishes to point out that, in view of this year's experimental annual meeting without technical exhibits, no revenue from technical exhibits has been budgeted for the coming year. Furthermore, the Committee wishes to draw attention to the substantial decrease in necessary expenditures for the annual meeting resulting from an absence of exhibitors. In the event that the Society's administration during 1960 wishes to reinstitute technical exhibition at the annual meeting, the Committee assumes that revenue from this source will balance the necessary additional expenditures, and return some surplus to the Society.

Respectfully submitted,
CHARLES LEVY, M.D., Chairman
FELIX MICK, M.D.
T. H. PENNOCK, M.D.
W. C. PRITCHARD, JR., M.D.
M. A. TARUMIANZ, M.D.

FROM THE FLOOR: What is the amount of money from exhibits that we are going to lose?

DR. LEVY: We budgeted \$700 in 1959. Mr. Morris says we grossed \$1,400 and netted about \$700 last year.

PRESIDENT SHANDS: That was from how many exhibits?

EXECUTIVE SECRETARY MORRIS: It was 27 or 28, I forget which.

PRESIDENT SHANDS: Are there any other questions?

The report was accepted.

PRESIDENT SHANDS: The next report is that of Medical Education.

REPORT OF THE COMMITTEE ON EDUCATION

Since the last annual meeting the Committee's activity has largely been confined to two areas; one, local seminars held in various parts of the State, and the two-way radio seminars which started October 6. On December 3, 1958 a pediatric seminar discussing the care of premature infants was held at the Alfred I. duPont Institute. It is felt that this was a most successful seminar and many of the pediatricians in Delaware, including both Kent and Sussex Counties, attended. Other individuals, nurses, etc., interested in this particular program, also seemed to be enthusiastic about the meeting.

With the assistance of the Department of Continuation of Education of the Pennsylvania Hospital in Philadelphia a seminar was held in Milford on March 25, the program of which is attached. There were twenty-six registrants at this seminar, and from all reports received, it was one of our most successful educational efforts. There were in attendance seventeen practicing physicians from Sussex County, three from New Castle County, two from Kent County, and one from Maryland.

The question of the establishment of the two-way radio seminar which was approved at the last annual meeting of the State Society was held in abeyance for some months because of unavailability of funds to finance it. Fortunately, Smith, Kline and French have undertaken to assist in this important particular and the staff of the University of Pennsylvania and Pennsylvania Hospitals and associated medical schools have co-operated with the Department of Continuation Education of the Pennsylvania Hospital, Mr. Morris, our Executive Secretary, and our Committee so that these seminars were started on October 6. It required considerable effort on everybody's part to bring this about. You have all received notice of the program, a copy of which is attached for the Committee record. The Committee requests the support of all members of the Society in this pioneer method of education and hopes that all will be patient if we experience at first some growing pains. We hope that there will be a large continued attendance. We hope by your continued constructive criticism that the seminars themselves will steadily improve and be of real value in the field of post-graduate medical education.

Respectfully submitted,
LEWIS B. FLINN, M.D., Chairman
LAURENCE L. FITCHETT, M.D.
G. BARRET HECKLER, M.D.

A motion was made and seconded to accept the report of the Medical Education Committee.

The next report is the Editor's report on Publications.

PUBLICATIONS COMMITTEE REPORT OF THE EDITOR

In the past three years it has been attempted to change the format of the Journal so that it would be more pleasing and attractive to our readers and our advertisers.

In 1959 a most important step was obtaining the services of Mrs. Melita Phillips as assistant to the editor. Mrs. Phillips has had a great deal of experience in typography and in layout work. Comparison of issues of the Journal in the past two years will show a marked improvement in the past three months; this is entirely due to Mrs. Phillips' experience in this type of work.

The perennial complaint unfortunately still exists and that is the difficulty in obtaining material on time for the printer. As has been in effect for a number of years, different institutions throughout the state have certain issues of the Journal that are sponsored by them. They have the same month each year and therefore should know for an indefinite period in advance what their deadline is. It is felt by the editor that some degree of planning on the part of the institutions responsible for these issues could eliminate at least ninety percent of this problem. We are taking active steps in reminding these people on a monthly basis when their deadline is approaching.

We know that many of our readers and advertisers are pleased with the new format of the Journal.

Respectfully submitted,
A. HENRY CLAGETT, JR., M.D.

PRESIDENT SHANDS: The next report is the business report on publications.

PUBLICATIONS COMMITTEE
REPORT OF THE
MANAGING EDITOR AND
BUSINESS MANAGER

Conclusion of operations, July, 1958 issue to
Conclusion of operations, July, 1959 issue

Statement A	1957-58	1958-59
Balance, beginning of year	\$ 5,837.62	\$ 9,526.36
RECEIPTS		
Advertising	\$24,121.56	\$27,474.98
Subscriptions	1,339.54	1,332.04
Single copy sales	19.76	209.50
Royalties	.53	
Roster sales	16.00	24.00
SMJAB—share of profits	707.01	1,008.65
SMJAB—		
Refunded discounts		23.47
Interest	87.50	87.50
Reimbursed Conference		
Expenses	211.76	
Reimbursed plates		8.50
Second class permit		
return		10.00
Totals	\$26,503.66	\$30,178.64
DISBURSEMENTS		
Printing and mailing of		
Journal	\$17,901.44	\$19,888.74
Salaries	3,760.00	4,290.00
Taxes	63.90	92.40
Rent, including Prepaid		
Rent		1,250.00
Addressing of Journal	120.00	120.00
Copyrights	48.00	48.00
Personnel recruitment		43.20
Rights, Cartoon &		
Legal Column	175.00	80.00
Special printing (indices,		
inserts, roster)	187.18	175.00
Insurance	92.85	92.85
Plates	77.34	
Stationery, supplies,		
equipment	102.45	538.19
Special editing	65.00	
Credit investigation		3.00
Postage account	10.00	
Second class permit		
transfer		10.00
Staff travel & expense	211.76	270.95
Total	\$22,814.92	\$26,902.33
Checking Account		
1957-58		1958-59
Balance in beginning		
of year	\$ 5,837.62	\$ 9,526.36
Balance at the end of year	9,526.36	12,802.67
Surplus from operations ..	3,688.74	3,276.31
Savings Account		
Statement B	1957-58	1958-59
Wilmington Savings Fund Society		
Balance, beginning of year	\$ 3,626.53	\$ 3,744.37
Interest	117.84	131.04
Balance end of year	\$ 3,744.37	\$ 3,875.41
Wilmington Trust Company		
Balance, beginning of year	\$ 1,748.06	\$ 1,765.54
Interest	17.48	35.66
Balance, end of year	\$ 1,765.54	\$ 1,801.20
Total in Savings Ac-		
counts end of year ..	\$ 5,509.91	\$ 5,676.61
Statement C—War Bonds—		
Purchase Date—1942		
1957-58		1958-59
Balance — \$3,502.38	\$ 3,502.38	\$ 3,502.38
Statement D—Summary		
1957-58		1958-59
Operating Funds & Re-		
serve, beginning of year	\$14,714.59	\$18,538.65

Earned Surplus	\$ 3,824.06	\$ 3,276.31
Operating Funds & Re-		
serve, end of year	\$18,538.65	\$21,981.66

Respectfully submitted,
M. A. TARUMIANZ, M.D.
Managing Editor
LAWRENCE C. MORRIS, JR.
Business Manager

PRESIDENT SHANDS: I believe that is a sizable figure for a journal of this size. It certainly is an indication of its excellent management. Are there any questions?

There was no response.

PRESIDENT SHANDS: As I understand it, this Journal is owned by the Society?

EXECUTIVE SECRETARY MORRIS: Yes.

PRESIDENT SHANDS: This is another asset.

The report of the Publications Committee was accepted.

PRESIDENT SHANDS: The next report is that of the Public Laws.

SECRETARY CANNON: This is a lengthy report but the Council felt it was important and all should hear it. I will read it as rapidly as I can.

REPORT OF THE COMMITTEE
ON PUBLIC LAWS

(1) *Relations between medicine, optometry and opticianry*

Intra-professional relations in the field of eye-care have been a problem in Delaware, as in the rest of the country, over the years. Friction has arisen from the efforts of optometry, in the opinion of medicine, to achieve by legislation an expansion of its field of endeavor into the medical aspects of eye care, and to restrict, through interpretation of the optometric licensing acts, the prerogative of the physician to employ technicians, including opticians, in the conduct of his practice. Optometry has contended that medicine, by attempting to establish the status of the ophthalmic technician, has sought to attack the optometrist and prevent him from fulfilling his legitimate role in eye care.

No positive legislation has been submitted by optometry during the past year. In line with its policy of aiding the optician in establishing his legal status, the Medical Society of Delaware officially supported a bill submitted by the opticians of Delaware to provide for the licensing and regulation of the practice of optical dispensing. This bill was given a public hearing on the floor of the State Senate, and was supported by representatives of opticianry and of the State Medical Society. It was vigorously opposed by representatives of optometry, and has failed to reach the floor for a vote. The Committee doubts that the bill will pass in its present form, because of the strong and well organized opposition of optometry. It has been informally decided that the opticians may see fit to prepare a bill not requiring the endorsement of the Medical Society through the omission of implications requiring medical backing. The Committee thinks that establishment of legal ground for the technician *per se* might best be accomplished by suitable amendment to the Medical Practice Act and thus encompass the whole field of technical help to the medical profession.

Meanwhile, an effort has been made to cooperate with optometry in determining in just what areas we could arrive at a solution without legislative battles and without compromising the principles and prerogatives of either side. This state of relative truce is still in force and continued efforts are still being made to work out some program of cooperation.

(2) *Amendment of the Medical Practice Act*

During the presidential tenure of Dr. Baker, the Committee on Public Laws was charged by him to meet with the Medical Council of Delaware to review the Medical Practice Act and work up the necessary amendments to bring this act up to date. The Committee on Public Laws was never successful in arranging a meeting with the Medical Council. During the past year, the Committee on Public Laws discussed the necessity of such an amendment at length and reported this to a meeting of the Council of the Medical Society of Delaware. It was felt that amendments to the Medical Practice Act were required in two particular areas:

First, the Medical Council apparently has authority by the present Act to cancel or revoke a certificate of licensure for adequately stated causes. It does not have the authority, however, to suspend a certificate or place an offending person on probation as a temporary measure during investigation of an alleged transgression. It has been felt that such a provision adequately written would make for a stronger Medical Practice Act.

Second, there is no provision in the present Medical Practice Act to establish the status of the ancillary workers in the medical field. It has been suggested that an amendment to the Medical Practice Act include a statement expressing the following principle: That no legislation submitted in the interest of the limited practitioners in the para-medical fields should be construed to limit in any way the privileges or prerogatives of doctors of medicine as defined under the Act to utilize technicians in or out of their offices in the diagnosis and treatment of their patients, even though the duties and functions of these technicians might overlap those defined in the code of said limited practitioners.

No definite action has been taken, but recently we are informed that a committee to study this problem and prepare specific recommendations for the legislature for January, 1960, has been appointed by Judge Terry, Chairman of the Medical Council of Delaware. This committee includes, among others, the incoming president of the Medical Society of Delaware, and the chairman of the Committee on Public Laws.

(3) *The Medical Examiner System Versus the Coroner System*

This has been a tough problem and has many ramifications which will not be discussed here. Suffice it to say that early in the legislature's session, Senate Bill #40 was introduced to abolish the medical examiner system and Senate Bill #41 was introduced to define the functions of the coroner and coroner system. Members of the Public Laws Committee met with the Sussex County senator who introduced these acts, and with the members of the Sussex County Medical Society, and were successful in obtaining an official expression on the part of the Sussex County Medical Society in favor of the medical examiner

system versus the coroner system. This carried with it, however, certain suggestions for changes in the makeup and operation of the Board of Post-Mortem Examiners. These suggestions were relayed to the Board and were at least in part accepted in principle and to some extent put in operation. To implement some of these suggestions, the attorney general submitted certain bills, none of which have been successfully acted upon or passed. To this date, however, neither have the aforementioned Senate Bills 40 and 41 been passed. Senate Bill 265, weakening the medical examiner system in favor of the coroners, was passed by both Houses. The Society asked the Governor to veto the Bill, and he saw fit to do this. It became the responsibility of organized medicine to help uphold this veto.

(6) *Conference on Aging*

The AMA has repeatedly reminded the individual states that in considering the problem of the aged and the White House Conference on Aging, to be held in January, 1961, the medical profession should take an active and a leading part, even though the medical aspects of aging are by no means the only aspects to be considered. The Committee on Public Laws was in repeated contact with the Committee on Aging of the Medical Society of Delaware, and the latter Committee submitted a bill to establish a Delaware State Citizens' Committee on Aging. This bill passed both House and Senate, and has been signed by the Governor. It provides for a continuing study of the needs of the State's aged, the medical included, by a Commission Chaired by Clarence J. Prickett, M.D. Dr. Prickett is, of course, Chairman of the Society's Committee on Aging. The Committee on Public Laws anticipates that medicine will be well represented on the Commission, and looks forward to active cooperation between the Medical Society and the Commission.

(5) *Forand Bill H.R. 4700*

This Bill in the United States Congress had as its chief purpose to provide free hospitalization and free surgical care for all recipients of the retirement benefits of Social Security. This Bill was strongly opposed by the AMA and by the American Hospital Association. The Committee on Public Laws received assurance again from the representatives of the hospitals in this state that they were against this bill in principle. The Medical Society of Delaware asked to appear during the hearings in Washington, but due to the limited time allotted us, we deferred in favor of the AMA witnesses themselves. The many reasons why the Medical Society of Delaware was opposed to this Bill were outlined in a letter prepared by Dr. Shands with the help of this Committee and the Executive Secretary and sent to our representatives in the Congress and to the chairman of the committee conducting the hearings. The overwhelming opposition to this Bill resulted in its failure to come out of committee. The Committee anticipates a determined drive to pass legislation of this sort in 1960, and plans to oppose such attempts.

(6) *Naturopathic Physicians*

It has been observed that in the classified section of the telephone directory of Wilmington, there are three individuals who advertise themselves as naturopathic physicians. A letter of inquiry was directed to the office of the Attorney General of Delaware requesting an opinion con-

cerning the status of naturopathic physicians in Delaware. The essence of the opinion was that no provisions could be found in the laws of this state directly relating to the same but it was felt that other general laws would seem to prohibit this practice. It was recommended that either a warrant be signed for the individuals whom we might have probable cause to believe to be practicing medicine without a license under this guise or that such information be furnished to the appropriate police agency. No action has been taken on this topic.

(7) *Basic Science Law*

No action has been taken by the Committee during the current year to explore further the suggestion of creating a basic science law in the State of Delaware. The Committee still feels that consideration of such a move has considerable merit as a definite step in the direction of the best interest of the health of the citizens of Delaware, but recognizes that opinion is divided on this point.

(8) *Organization of Legislative Key Men*

On the theory that our interests will not best be served by closing the barn door only after the horse has escaped, an effort has been made to set up a medical legislative organization in the State of Delaware, comprised of legislative key men in each county who in turn will have direct organized contact with medical men in their respective areas, who in turn have personal contacts with members of the legislature or with candidate for office during times of election. The practical purpose of such an organization is twofold. First, to reach the necessary ears during the time of a legislative emergency, and second, to express our views and principles during election periods for individual information of the membership, so that local physicians might better evaluate candidates for election.

The Chairman of this Committee, the President-elect and the Executive Secretary recently attended an AMA-sponsored meeting in St. Louis at which the legislative problems of medicine were discussed before representatives of 49 states. It was the conclusion of the meeting that throughout the country medicine's opposition in legislative matters has been operating in a well organized and efficient manner and that steps must be undertaken better to educate the individual physician concerning the problems of organized medicine in legislative affairs, and to enlist more actively his support for our collective program. The Committee on Public Laws expects to develop this thesis during the coming year, probably through meetings at the county level for local physicians.

Respectfull submitted,
W. O. LaMOTTE, JR., M.D., Chairman
G. A. BEATTY, M.D.
JAMES BEEBE, JR., M.D.
J. L. FOX, M.D.
J. S. MCDANIEL, M.D.

PRESIDENT SHANDS: Dr. LaMotte is a dedicated individual on this subject and the work of this committee. I have never known one who has taken a deeper interest and has really gone to the heart of what it is all about in a more effective way. I certainly want to thank him as the President of your Society for what he has done and what his committee has done during the past year. I think Mr. Morris will wholeheartedly agree with the statements about Dr. LaMotte.

DR. MCGUIRE: Mr. Chairman, just as an individual member I would like to add a word of praise to the committee and suggest that all of us together, implement our knowledge more on the legislative activities on both a national and a State level because it is going to mean the survival of medicine as we know it today, based on our knowledge. I think this committee has done a fine job.

The report was accepted.

PRESIDENT SHANDS: The next is the report of the Committee on Scientific Work.

REPORT OF THE COMMITTEE ON
SCIENTIFIC WORK

The Committee on Scientific Work has been traditionally a standby committee and did not meet this year.

There is, therefore, no report.

JAMES T. METZGER, M.D., Chairman
N. L. CANNON, M.D.
J. A. ELLIOTT, M.D.

PRESIDENT SHANDS: The next is the report of the Women's Auxiliary.

ANNUAL REPORT — 1959
OF THE
WOMEN'S AUXILIARY TO THE
MEDICAL SOCIETY OF DELAWARE

The Woman's Auxiliary to the Medical Society of Delaware is now completing its 30th year. As president, it is my pleasure to submit this report on our activities and accomplishments for the year.

Delaware, with three counties, is 100 per cent organized. We have 279 members and had one death this year. All counties have shown a gratifying increase in activity and projects.

All counties participated actively in raising funds for A.M.E.F. The total collected to date is \$579.54.

A "Today's Health" display was presented at our annual meeting. Auxiliary members, doctors, and dentists were solicited. A total of 75 subscriptions was obtained this year. The National "Today's Health" Committee announced that this year brings to a close the "Today's Health" project. The A.M.A. has decided to handle this phase of the work by sending a subscription to each physician paying A.M.A. dues.

The "Bulletin" is used primarily by our state and county officers and committee chairmen. Subscriptions total 26.

Our civil defense chairman distributed literature to the county auxiliaries and several of our members assisted other civil defense organizations.

The state legislation chairman has forwarded to the county auxiliaries all national releases. Your president has received and read the "Washington Letter" and the "A.M.A. Secretary's Newsletter."

Safety has been stressed at our auxiliary meetings. Your president was a guest at a dinner meeting in Dover where Colonel Ferguson of the Delaware State Police spoke on safety. Your

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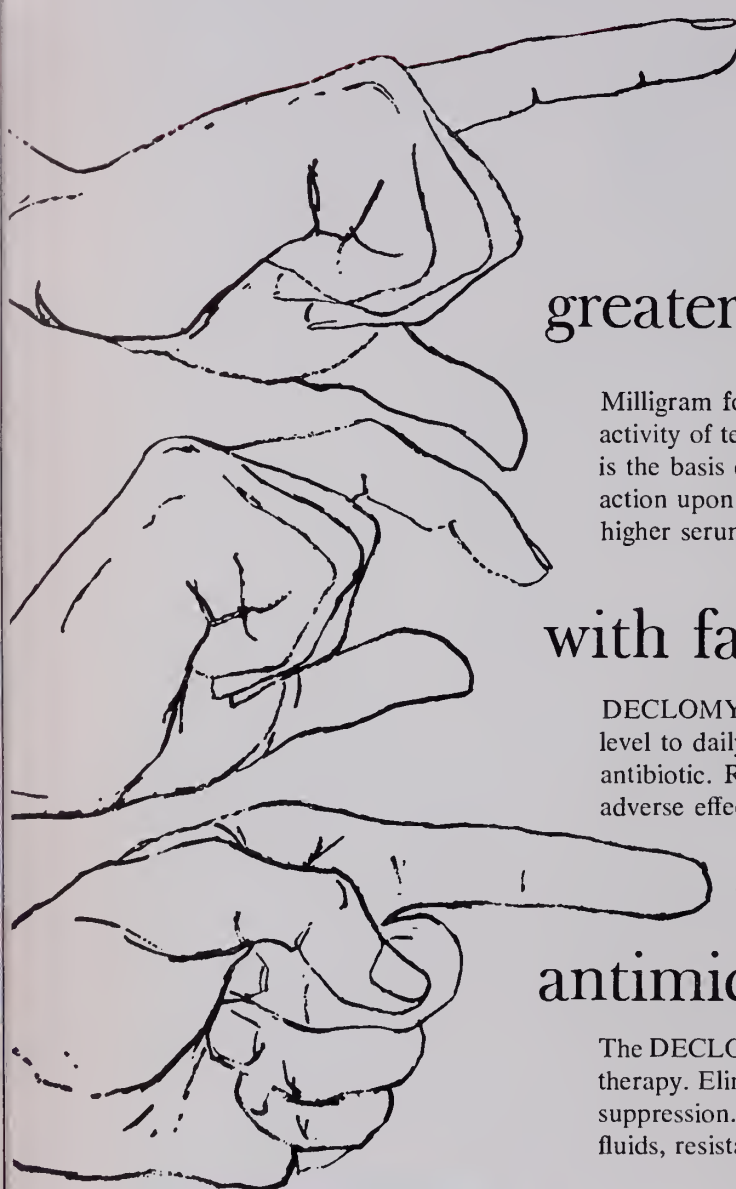


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*Hirsch, H. A., and Finland, J.
New England J. Med. 260:1
(May 28) 1959

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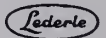
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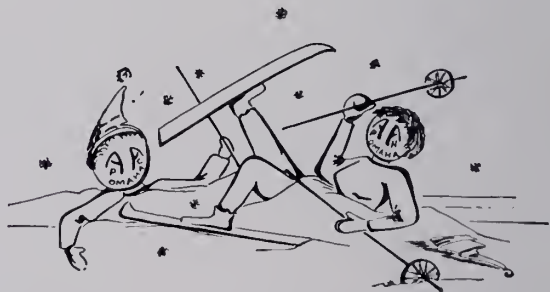
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safety chairman and I prepared an article on safety which was published in the "Delaware State Medical Journal."

Mental health received special emphasis as a project this year. New Castle County sponsored a booth at the Delaware State Hospital Fair. Kent and Sussex Counties volunteered to purchase toilet articles and make individual gift kits, which were distributed to the Stockley Hospital. We received from the area drug stores and the Coty Corporation a large donation of cosmetics and toilet articles. These were presented to the patients at the same hospital just before Easter.

A number of our members work regularly with the Volunteer Service Committee of the Mental Health Association, donating many hours of service at the state hospitals.

Auxiliary members have been very active in voluntary services. Individuals assisted in both the Delaware State Hospital and the Milford Memorial Hospital fairs. Members serve on hospital junior boards, man the hospital gift shops, and operate the gift carts to the patients' beds. Other services include assistances in clinics, acting as hostesses at state health units and the mobile chest x-ray survey, and cooperation with the mental health, cancer, heart, polio, T.B., and Red Cross drives. Some auxiliary mothers serve as Brownie leaders and as den mothers for the scouts. No survey was conducted this year of the total hours of service.

The Paramedical Careers Recruitment Committee notified each high school in the state of the scholarship program. The chairman planned a program for the Rotary Club of Wilmington for whom she and her committee screened and selected applicants to receive the nurses' scholarships sponsored by the Rotary Club of Wilmington.

An excellent article on "The Auxiliary's Challenge to Provide Nurses for a Changing World and a Growing Nation" was prepared by our state chairman, and was accepted for publication in the state medical journal. Our state chairman also prepared and placed a poster display in a Wilmington department store during Medical Education Week.

The Kent County auxiliary members gave a tea in Dover honoring all Future Nurses Clubs in Kent County. The Kent County auxiliary annually presents an award to the outstanding student in each high school's Future Nurses Club in Kent County. Each of our nursing schools in Delaware cooperated in the program. The recruitment has experienced an excellent year, and many ideas are being explored to make next year even more rewarding.

Since assuming the presidency in October, 1958, I have traveled 3,444 miles on auxiliary business. I have attended the state meetings of Maryland, New Jersey, and Pennsylvania; the annual conference for presidents in Chicago; the Pennsylvania mid-year conference in Harrisburg; and the annual meeting in Atlantic City in June.

On the state level, there have been four executive committee meetings and one directors' meeting. I have attended all of the Kent County auxiliary meetings and was guest speaker at four other meetings. Presidential letters were sent periodically to various state officers and chairmen.

In February, 1959, the Woman's Auxiliary received a check in the amount of \$100 from the Medical Society of Delaware, for the purpose of helping with auxiliary expenses. We are extremely grateful for this donation.

As we come to the close of our 30th year, I would like to convey my sincere appreciation to my board of directors, officers, committee chairmen, and the convention chairman and her committee.

I consider it a very special privilege to have served as your president. The experience I have gained and the friendships I have formed have made it indeed a very rewarding experience.

Respectfully submitted,
MRS. HEWITT W. SMITH, President

PRESIDENT SHANDS: A motion is in order with thanks. Do I hear such?

A motion was made and seconded to approve the report of the Woman's Auxiliary.

PRESIDENT SHANDS: I sounds as though the Woman's Auxiliary has been very active, and Mrs. Smith has done a fine job.

The report was accepted.

PRESIDENT SHANDS: Next we have reports of Special Committees. First is the Advisory Committee to the Woman's Auxiliary.

REPORT OF THE ADVISORY COMMITTEE WOMAN'S AUXILIARY

Your Advisory Committee has held no formal meetings. Your chairman has held numerous informal conferences with the president of the Woman's Auxiliary concerning information and procedure relating both to Auxiliary and Medical Society affairs.

We anticipate a well prepared Auxiliary session.

Respectfully submitted,
HEWITT W. SMITH, M.D., Chairman
L. C. MCGEE, M.D.
J. V. CASELLA, M.D.
R. F. LEWIS, M.D.

PRESIDENT SHANDS: The next report is the American Medical Education Foundation.

COMMITTEE ON AMERICAN MEDICAL ASSOCIATION FOUNDATION

The Committee on the American Medical Education Foundation reports contributions of \$2,624.54 for the period January 1, 1959 through August 31, 1959, and of \$5,226.59 for the period September 1, 1958 to August 31, 1959. The Woman's Auxiliary from all three counties has been influential in contributing a good percentage of this total. The Committee wishes to congratulate the Auxiliary and thank the members for their excellent work.

There will be two more letters reminding members to contribute this year. We expect a good response to these requests. It is the opinion of the Committee that solicitation by mail and through the County Society meetings is the most acceptable to the members.

The National Committee requested us to consider collections by means of an assessment added

to the State Society dues. This did not meet with favor for the following reasons: AMEF contributions are voluntary—an assessment is not; contributions in Delaware generally exceed the amount an assessment would raise; comparatively, Delaware ranks well when compared to other states in total amount and in percentage contributing.

Our President, Dr. Shands attended the National AMEF meeting in Chicago in January. The Committee expresses its thanks to Dr. Shands for representing us at that meeting.

Respectfully submitted,
J. L. FOX, M.D., Chairman
J. J. DAVOLOS, M.D.
F. R. EVERETT, M.D.
J. R. KERRIGAN, M.D.
R. L. KLINGEL, M.D.
W. W. LATTOMUS, M.D.
F. O. POOLE, M.D.
S. W. RENNIE, M.D.

PRESIDENT SHANDS: We have done quite well in the A.M.E.F., thanks to Dr. Fox and his predecessors. We rank with the best of the States. I think we are right in not having an assessment. If an assessment is put on, I think it will discourage any additional giving, and we will wind up with less in the end.

One of the things which has been worked out is that if we want to give and we are solicited by our own medical school or other medical schools, we can give to this medical school through the A.M.E.F. A great many of you have been giving for a number of years to your own school through the Alumni, and if there is any problem about wanting to know whether you can or cannot give through the A.M.E.F., get in touch with me or Mr. Morris because I know we can work it out. But that was one of the things I know discouraged giving through the A.M.E.F. for a great many years.

PRESIDENT SHANDS: Is there any discussion?

DR. DEWEES: I would like to ask whether the figure takes into account those of us who do contribute to our own alma mater directly. I was asked whether I did by mail and indicated that I did. But I would guess that there are a number who did not contribute to the A.M.E.F. but contribute directly. Is that figure taken into account?

PRESIDENT SHANDS: That is what they are trying to get straightened out. You can give either way. Give directly to A.M.E.F. if you are approached by your home school, and of course the school gets the full amount. There is nothing taken out for overhead. But they are trying to work out some system that the schools will report to A.M.E.F. and that will be credited to the State.

Mr. Morris, is that correct?

EXECUTIVE SECRETARY MORRIS: I think that is right. The difference is that A.M.E.F. is in a position to go to various foundations, corporations, what not, and say, "We have been able to raise this much," and when contributions go directly to the school, at least under the present system the contributions are not taken into account. With A.M.E.F. there is a leverage factor. The money you give generates more money because it can be used as concrete support from doctors for medical schools.

PRESIDENT SHANDS: That would be my suggestion. This year for the first time I am going to give through the A.M.E.F., although I am approached each year from my own school as well as the school where I took my hospital work.

The report was accepted.

PRESIDENT SHANDS: The next report is the Committee on Alcoholism.

REPORT OF COMMITTEE ON ALCOHOLISM

Although no accurate census of the alcoholics in the population of Delaware is available, data from four state-supported institutions and two agencies give evidence that alcoholism is a serious problem in the State. The State Board of Corrections, the Delaware State Hospital, the State Welfare Home and Hospital for the Chronically Ill, the Governor Bacon Health Center have provided residential care and treatment for alcoholics in the fiscal year 1958-59. The Mental Hygiene Clinics of Delaware have given outpatient treatment to alcoholics. This report will present information suggestive of the incidence of alcoholism in the State. It will also indicate some of the efforts being made to cope with the problem.

The Board of Corrections, State of Delaware. According to the records of the State Board of Corrections for the fiscal year 1958-59, the total number of commitments in Delaware on a charge of Drunkenness was 2,019. The total number of commitments on the charge Driving Drunk was 968. These two charges represent a total of 2,987 commitments of which 2,795 were males, 192 females.

The total number of commitments to the New Castle County Correctional Institution in 1958-59 on the charge of Drunkenness was 891. The total number of commitments to this institution on the charge Driving Drunk was 469. There were, therefore, a total of 1,360 commitments to the New Castle County Correctional Institution on these two charges involving drinking. Of these 1,268 were males, 92 females.

The Delaware Safety Council reported on December 31, 1958, that in 15 of the 71 fatal accidents occurring in the calendar year 1958 (which includes six months of the period for which the other data are given) both speeding and drinking were reported. Drinking on the part of the driver was reported in 6 other accidents. In still another accident during this year, a pedestrian who had been drinking was killed. In 22 of the 71 fatal accidents during 1958 drinking was a factor.¹

A program of weekly meetings under the sponsorship of the Alcoholics Anonymous is in operation for males in the three correctional institutions under the jurisdiction of the State Board of Corrections. At the Del Castle Farm of the New Castle County Correctional Institution the average attendance has been 80. At the Kent County Correctional Institution there had been an average of 60 and at the Sussex County Correctional Institution an average of 100. It should be said that these meetings are open to any inmates. Some who attend may not be alcoholics. At the New Castle County Correctional Institution there is one highly screened group of alcoholics who have been meeting regularly with a counselor.

¹Wilmington Morning News, "Speed, Drinking Blamed In 39 of 71 Fatal Accidents," Wilmington, Delaware, Thursday, January 15, 1959.

The attendance in this group has averaged 8. The inmates who attend these meetings must sign a request to be included in the group. It is thought, therefore, that this group of inmates is definitely motivated toward receiving help. In the Women's Building at the New Castle County Correctional Institution A.A. meetings are not held on a regular basis. Instead, female members of A.A. work with individual women at the suggestion of the Supervisor of the Women's Prison.

Delaware State Hospital. Alcoholics who are psychotic or too severely disturbed emotionally to remain in the community are among the patients treated at the Delaware State Hospital. During the fiscal year 1958-59, 35 alcoholics (25 males, 10 females) were received as first admissions to a psychiatric hospital. A total of 24 (22 males, 2 females) were readmitted during the period being considered. One of the patients included in the total number of admissions was committed to the Delaware State Hospital by a court. Fifteen alcoholic patients left the hospital on Trial Visit status during the year. Twelve others were discharged. On June 30, 1959, a total of 67 alcoholics (54 males, 13 females) remained in residence.

The ages of the alcoholic patients admitted and readmitted to the Delaware State Hospital in 1958-59 ranged from 21 to over 65 years. Thirty-six per cent of the males received as first admissions in the past fiscal year were between 21 and 40 years of age. Fifty per cent of the female first admissions in this period were within this age range. Of the total number remaining in residence at the end of the fiscal year (67 patients) 71.6 per cent ranged in age from 36 to 55 years.

Mental Hygiene Clinics. During 1958-59 the Mental Hygiene Clinics of the State received a total of nineteen patients (13 males, 6 females) were diagnosed as alcoholics. Of this number 12 (9 males, 3 females) received treatment. Four of this number (two of each sex) withdrew from treatment too soon for their condition to have been much affected. Two males were discharged improved. Six patients (5 males, 1 female) were discharged unimproved. Five patients (4 males, 1 female) were admitted for diagnosis only. Two female patients were recommended for psychotherapy but refused treatment. One male discharged unimproved and one female received for diagnosis only were referred for residential treatment at the Governor Bacon Health Center.

The State Welfare Home and Hospital for the Chronically Ill. Each year a small number of the patients admitted to the State Welfare Home and Hospital for the Chronically Ill, at Smyrna, Delaware, have chronic alcoholism as a part of their diagnosis. Eight male alcoholics were admitted during the fiscal year 1958-59. They ranged in age from 38 to 66 years. No female alcoholics were admitted in this period. Four males classified as alcoholics were discharged and transferred to the Governor Bacon Health Center during the fiscal year.

The Governor Bacon Health Center. One of the services of the Governor Bacon Health Center is the Alcoholic Rehabilitation Unit, which provides residential care and treatment for alcoholic patients who are not frankly psychotic. During the fiscal year 1958-59, a total of 108 alcoholic patients (91 males, 17 females) were admitted to the Governor Bacon Health Center. Of this num-

ber a total of 19 (18 males, 1 female) had been previously a patient in a psychiatric hospital. One male patient was transferred to the Governor Bacon Health Center directly from the Delaware State Hospital. There were 52 readmissions (44 males, 8 females). Twenty-two patients readmitted in the past fiscal year (42.3 per cent of the total number readmitted) had been patients in the Alcoholic Rehabilitation Unit at least twice previously. The total number of alcoholic patients admitted for residential treatment at the Health Center during 1958-59 was 161 (136 males, 25 females). The largest number of referrals for alcoholic patients admitted for the first time to the Governor Bacon Health Center were made by members of Alcoholics Anonymous—a total of 40 (34 males, 6 females). The second largest number of referrals were received from physicians, a total of 43 patients (35 males, 8 females).

A total of 29 alcoholic patients (26 males, 3 females) were committed by courts to the Alcoholic Rehabilitation Unit for periods ranging from 30 to 90 days. The largest number of commitments was made by the Family Court of New Castle County (13 including 11 males, 2 females). The Municipal Court for Wilmington made the second highest number of commitments—a total of 10 (9 males, 1 female).

A total of 147 alcoholic patients (124 males, 23 females) were discharged from residential treatment during the past fiscal year. Of the number discharged, a total of 101 patients (86 males, 15 females) were discharged improved. A male and a female were discharged as having received maximum benefit, and one male as slightly improved. Nineteen patients (13 males, 6 females) were discharged unimproved and against medical advice. An additional 11 males were discharged unimproved but with permission. This includes one male patient who became psychotic and was transferred to the Delaware State Hospital. Thirteen patients (12 males, 1 female) were discharged from the books as AWOL, having left without the knowledge or permission of the personnel of the Health Center.

Two males admitted during the fiscal year were addicted to drugs as well as to alcohol. One was discharged improved. The other died from alcohol intoxication, delirium tremens due to alcohol and bromides, edema of lungs due to poisoning (alcohol and bromides), cerebral edema and bronchopneumonia.

Two other male alcoholics died during the fiscal year. The death of one was due to infarction of the myocardium due to arteriosclerotic coronary thrombosis. The death of the third alcoholic male was due to Laennec's cirrhosis with hemorrhage and bronchopneumonia. The ages of these three patients at death were 46, 63, and 56 respectively.

Conference on Alcoholism. Two members of the Staff of the Alcoholic Rehabilitation Unit of the Governor Bacon Health Center and two members of the Wilmington Alcoholics Anonymous attended the Northeast States' Conference on Alcoholism, which was held in New Haven, Connecticut, on May 18-20, 1959. The Conference was sponsored by the Connecticut Department of Mental Health, the Connecticut Commission on Alcoholism, and the United States Public Health Service. The Conference Program included discussion of topics pertinent to the treatment and rehabilitation of alcoholics in residential and outpatient facilities.

Conclusion. The data presented above indicate that alcoholism is a problem of serious proportion in Delaware. It represents wastage of human potentialities. The preceding information gives only a partial picture of the situation in the State. Perhaps the assistance of some of the community agencies like the Family Society for Northern New Castle County, the State Department of Public Welfare, the Family Court might be elicited to furnish from their records information regarding the number of cases in their active case loads having alcoholism as one of the problems affecting family relationships.

A half-way house or some other such facilities to which homeless alcoholics could go after discharge may help to reduce the incidence of recidivism. Too frequently the alcoholic patient on discharge returns to his former lodgings and is immediately surrounded with the drinking companions of his pre-hospital association. The rehabilitation of the alcoholic patients discharged from the Governor Bacon Health Center might be made available for a social worker to work exclusively with the alcoholic patients. This worker could assist the patients in finding an environment more conducive to sobriety. At the same time the families of alcoholic patients, through case work, might gain understanding of the patient's problems and needs and develop techniques for assisting him in his efforts at rehabilitation.

Finally, the Special Committee on Alcoholism is of the Opinion that the problem of alcoholism in any community is the responsibility of all community agencies and professional societies. Therefore, a coordinated effort of medical personnel and community agencies is necessary for preventive measures as well as treatment and rehabilitation of the alcoholic. It behooves the Medical Society of Delaware to take the initiative toward a coordinated approach to the problem of alcoholism in Delaware.

Respectfully submitted,
M. A. TARUMIANZ, M.D., Chairman
BRUCE BARNES, M.D.
H. T. MCGUIRE, M.D.
C. J. PRICKETT, M.D.

PRESIDENT SHANDS: I think we can't pass over this report without a word about our departed member, George Gehrman, who was so interested in furthering the research of alcoholism in the State.

DR. MCGUIRE: I think it would be proper and appropriate for the State Society to take cognizance of the interest and the intelligence and the dedication that Dr. Gehrman showed in this problem. He was the individual who hired a member of A.A. and brought him here and put him in the employ of the du Pont Company, rather surreptitiously. That member in turn, through the facilities of this building started the first A.A. group in this community, in Delaware.

We are all aware that A.A. has modified our historic attitude, bigotry or prejudice in this general problem of alcoholism because it has shown that drunks can stand up and go back and meet their economic, social and cultural needs.

I would like, Mr. Chairman, to formally move that this House of Delegates send a note of recognition and appreciation to Dr. Gehrman's widow for the significant contribution he has made in this medical, emotional and psychological problem.

PRESIDENT SHANDS: I would say this should be in the form of a resolution, and I can tell you no one will more deeply appreciate that thought than Mrs. Gehrman. She was 100 per cent behind everything her husband did. So do you put that in the form of a motion?

The motion was carried and the report accepted.

PRESIDENT SHANDS: The next report is that of the Grievance Board.

REPORT OF THE GRIEVANCE BOARD OF THE MEDICAL SOCIETY OF DELAWARE

Mr. President and Members of the House of Delegates:

Your Grievance Board is pleased to report that no cases have been referred to us during this past year and therefore we had no occasion to take any action.

Respectfully submitted,
E. R. MAYERBERG, Chairman
BRUCE BARNES, M.D.
ROGER MURRAY, M.D.
H. W. SMITH, M.D.
M. A. TARUMIANZ, M.D.

PRESIDENT SHANDS: The next report is that of the Committee on Aging.

Editorial Note: This report was not read at the time. It was deferred to be part of the seminar presented on Thursday, October 15th.

A report on this subject will be presented in connection with a Panel Discussion, "Growing Older—The Medical, Mental and Social Problems of the Elderly" in an early issue of the JOURNAL.

PRESIDENT SHANDS: The next committee report is that on Maternal and Infant Mortality.

REPORT OF COMMITTEE ON MATERNAL AND FETAL MORTALITY (1958)

During the year 1958 there were a total of 11,754 live births in Delaware. There were four maternal deaths in 1958, giving a .34 maternal deaths per thousand deliveries, compared to .36 in 1957. The four maternal deaths shall be designated as A,B,C and D.

Case A—Age 17, colored female. The cause of death in this case was a direct obstetrical, (A)—hemorrhage. It would appear that this was due to patient's lack of prenatal care and most probably the patient came to delivery with an inadequate hemoglobin, with bleeding accompanying delivery, went into irreversible shock in spite of heroic efforts.

Case B—Age 31, colored female. This patient died of Peritonitis following septic complete abortion. The cause of death. Direct Obstetric, (C)—Infection. No physician responsibility involved.

Case C—Age 39, white female. The cause of death in this situation was post-operative delayed circulatory collapse following a Caesarean Section. No further information was supplied to the committee, so the classification here is left as undetermined due to insufficient information.

Case D—Age 29, white female. This patient went into spontaneous premature labor at approximately six months, and died of anoxia following

aspiration of vomitus. Classification, Direct Obstetrical, (E)—Anesthesia. This is classified as one in the preventable category.

The deaths as they have occurred for the year 1958 in the State Of Delaware again point up the fact that the cause of maternal deaths fall in the pattern as follows:

- i.e. 1—Hemorrhage
- 2—Infection
- 3—Anesthesia

We must therefore again renew our efforts for improved careful prenatal and natal care. To be ever on the alert for patients going into spontaneous labor with full stomachs, because of the tremendous danger involved in a patient undergoing general anesthesia for delivery with undigested food in the stomach. Continued vigilance must be maintained at all times in the care of the pregnant patient.

The committee wishes to acknowledge our thanks to Mr. Lawrence C. Morris Jr., Executive Secretary of the Medical Society of Delaware, the Delaware State Board of Health, and the cooperation of all the physicians interested in improving maternal and infant care in Delaware.

REPORT ON INFANT MORTALITY — 1958 —

The Committee on Infant Mortality has continued to study the neonatal deaths occurring during the first seven days of life.

Study Sources

The form for recording information on neonatal deaths was, for the most part, filled in by the physician responsible for the care of the infant. The members of the committee obtained the lacking data from the hospital charts. The statistics are found in Tables I and II. The death rates for the five year period 1954 to 1958 are found in Table III.

Discussion

For the past three years, the rate for the State of Delaware has been about 14.5 deaths / 1000 live births, after having been 18.1 in 1954. It was hopefully thought that this indicated improvement, but 1958 brought a rate of 17.7, with a rate of 15.9 for the five year period, 1954 to 1958. Therefore there is no statistically significant change. Also, there is no real change for any individual hospital. This seems discouraging, but at least we can report that two of the Wilmington hospitals and all of the Sussex and Kent County hospitals hold regular discussions of the neonatal deaths and most of the preventable factors listed for the deaths at these hospitals have been handed down as the opinion of the staff of the particular hospital. Now that the physicians are becoming critical of themselves we may see some progress. The autopsy percentage has averaged 45 per cent and should be much better.

Discussion of deaths with preventable factors

Case I. 2 lb. 3 oz. negro male delivered by explosive force while the resident was donning a gown. The baby shot out to the end of the cord, which separated from the baby. The baby died of intracranial hemorrhage.

Case II. 5 lb. 11 oz. white male—lived four days. There was no post mortem examination, but it was the opinion of the staff that this death was the result of poor feeding technique.

Case III. 8 lb. 1 oz.—negro female delivered by Cesarean section. Baby reported to be in fair condition. Feedings were started on the second day and were taken poorly. Staff opinion was that there should have been a pediatric consultation for an infant who was that sick. Prenatal care was also inadequate.

Case IV. 4 lb. 6 oz. Precipitous delivery at home. No prenatal care. Intracranial hemorrhage was the cause of death.

Case V. 1 lb. 7 oz. white female. Mother was hyperthyroid with no care during first five months of pregnancy.

TABLE I

	Delaware	Wilmington General	Memorial	St. Francis	Riverside	Kent General	Milford Memorial	Beebe	Nanticoke	U.S.A.F. Dover	Home	Total
Total live births	2688	2288	1903	947	191	1244	975	374	500	451	193	11754
Deaths in first 7 days	35	47	41	19	3	21	14	6	8	7	7	208
Corrected deaths first 7 days	35	46	39	19	4	19	14	6	8	7	11	208
Deaths/1000 L.B. first 7 days	13.0	20.1	20.5	20.1	20.9	15.3	14.4	16.1	16.1	15.5	57	17.7
Deaths/1000 L.B. first 24 hours	8.9	12.2	12.6	6.3	20.9	9.6	10.3	10.7	4.0	8.9	51.8	11.4
Deaths in first 7 days—weight over 1000 gms.	24	27	20	11	2	12	8	2	6	4	5	121
Deaths/1000 L.B. first 7 days over 1000 gms.	8.9	11.8	10.5	11.6	10.5	9.6	8.2	5.3	13.2	8.9	25.9	10.3
% deaths previable 500-1000 gms.	31.4	41.3	48.7	42.1	50	36.8	42.8	66.6	25	42.7		
% deaths viable preatures 1000-2500 gms.	45.7	37.0	35.9	36.8	50	52.7	35.8	33.3	25	42.8		
% deaths over 2500 gms.	22.9	21.7	15.4	21.1	0	10.5	21.4	0	50	14.3		
Inadequate prenatal care	5	8	13	11	0	3	5	4	1	0	7	50

TABLE II

	Delaware	Wilmington General	Memorial	St. Francis	Riverside	Kent General	Milford Memorial	Beebe	Nanticoke	U.S.A.F. Dover	Home	Total
Cause of death												
Undetermined	13	23	18	9	3	13	6	3	3	4	8	103
Hyaline membrane	4	6	4	1		1						16
Congenital anomalies	5	4	4	4		3	1			1		22
Intrauterine anoxia	5	1	5	1	1		2	2	2	1	1	21
Intracranial hemorrhage	3	8	2	1		2	3	1	2		2	24
Erythroblastosis fetalis	3	2	1	2								8
Pulmonary hemorrhage	1	1	1							1		4
Sepsis	1		1									2
Bronchopneumonia		1	2	1			1		1			6
Aspiration of milk			1									1
Purpura							1					
Total	35	46	39	19	4	19	14	6	8	7	11	208
% Undetermined	37.2	50	46.2	47.3	75	68.4	42.9	50	37.5	57.2	72.7	49.5
Autopsies	19	28	24	4	0	13	8	1	6	2	0	105
% Autopsies	54.4	59.6	58.5	21	0	61.8	57.2	16.7	75	28.6	0	50.5

TABLE III
1954 - 1959

	Delaware	Wilmington General	Memorial	St. Francis	Riverside	Kent General	Milford Memorial	Beebe	Nanticoke	U.S.A.F. Dover	Home	Total
Total live births	14076	10594	8033	4273	841	5008	4550	1865	2219	1767	1919	55145
Corrected deaths	182	196	133	67	21	68	66	37	38	21	46	875
Deaths/1000 L.B.	12.9	18.5	16.6	15.7	25.0	13.5	14.5	19.8	17.1	11.9	24.0	15.9
Deaths over 1000 gm.	120	128	75	43	12	43	42	20	30	13		
Deaths/1000 L.B. weight over 1000 gm.	8.5	12.1	9.3	10.1	14.2	8.6	9.2	10.7	13.5	7.3		

PERINATAL PERIOD II

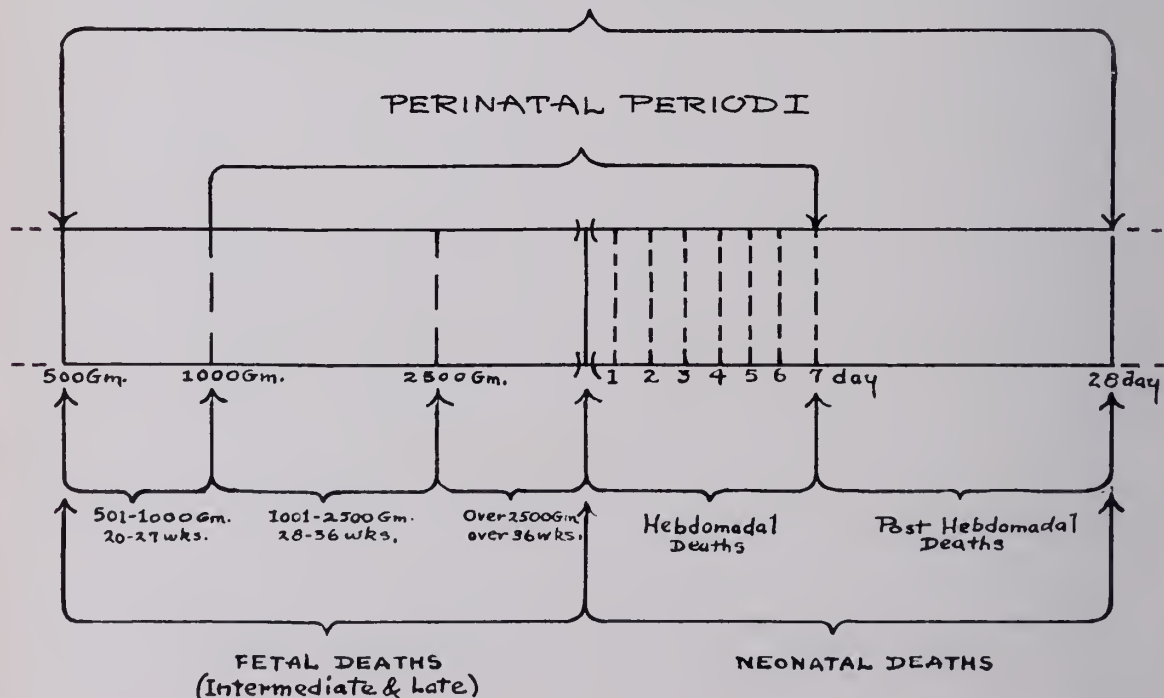


TABLE 5. APGAR RATING

SIGN	0	1	2
Heart rate	Absent	Slow	Good
Respiratory effort	Absent	below 100	Over 100
Muscle tone	Limp	Slow irregular	crying
Response to catheter in nostril (tested after oropharynx is clear)	No response	Some flexion of extremities Grimace	Active motion Cough or sneeze
Color	Blue, pale	Body pink, extremities blue	Completely pink

Case VI. 4 lb. 14 oz. negro male. Subarachnoid hemorrhage was the cause of death. Mother is a diabetic and had inadequate prenatal care.

Case VII. 5 lb. 13 oz. Normal while in hospital. Returned 10 hours after discharge with cyanosis and milk coming from the nostrils. Post-mortem examination revealed aspiration pneumonia.

Case VIII. 3 lb. 3 oz. cyanotic at birth and respirations were delayed and irregular. Large amount of mucus. Was eating well. Died on the 4th day. Attending physician thought baby aspirated.

Case IX. 6 lb. 8 oz. erythroblastosis. Air embolism during exchange transfusion. Catheter was inserted 10-12 cm. into umbilical vein. After withdrawing the first 20 cc., catheter was open to the air and the blood in the tube disappeared, as though "sucked into the baby.

The Committee on Maternal and Child Care of the American Medical Association has prepared a Guide for the Study of Perinatal Mortality and Morbidity.

In order to standardize the reporting of perinatal mortality, the following chart indicates quite well the subdivisions of neonatal and fetal deaths.

Medovoy and Biggs¹ of Winnepeg have outlined a program for preventability that we should like to use as a basis for discussion of Delaware's needs.

1. Increased facilities for prenatal care. Twenty to twenty-five percent of all the hebdomadal deaths in Delaware have been babies of mothers with no prenatal care or inadequate prenatal care.

2. Concentration of attention on babies who are in difficulty at birth. The Apgar method of assessing the condition of the baby at birth has been widely used and has been instituted as a routine in several of the Wilmington hospitals. The baby is rated 0, 1, or 2 on each of five clinical signs with a top score of 10. Infants rated 6-10 usually have no difficulty. Those rating 1-5 need careful supervision during the first forty-eight hours. Some of these will have no difficulty and will be normal babies, but many will prove to have trouble due to such conditions as anoxia, infection, or congenital anomalies.

3. Early recognition of infection. Most neonatal infections are acquired in utero. A high index

¹ Medovoy, H. and Briggs, J. N.: Reduction in Neonatal Mortality: The Present and the Future. *Pediatric Clinics of North America*, May, 1959; 259-277.

of suspicion is the key to prompt diagnosis. Any infant that is listless, feeds poorly, has respiratory difficulty, or has jaundice in the presence of any of the former three, should be suspected of infection. Sepsis must be anticipated and prophylactic antibiotics started at birth in any of the following conditions.

- Premature rupture of membranes for 18 hrs. prior to delivery.
 - Prolonged, difficult labor, especially if there has been manipulation or instrumentation.
 - Artificial induction of labor.
 - Murky amniotic fluid.
 - Maternal febrile illness preceding or during labor.
 - Delivery outside of labor room under conditions less than ideal.
- Alert, well trained personnel.
 - Specialized care of conditions which commonly cause neonatal deaths.
 - Respiratory distress syndrome.
 - Congenital malformations.
 - Erythroblastosis.

Respectfully submitted,
F. S. HASSLER, M.D., Chairman
B. F. BURTON, M.D.
K. L. ESTERLY, M.D.
L. I. FITCHETT, M.D.
A. M. GEHRET, M.D.
P. C. TRICKETT, M.D.
R. O. Y. WARREN, M.D.
A. H. WILLIAMS, M.D.

Report accepted.

PRESIDENT SHANDS: The next report is on Military and Veterans Affairs.

REPORT FROM THE COMMITTEE ON MILITARY AND VETERANS AFFAIRS

There has been no business before the Committee this year so that there have been no meetings of this Committee and it has therefore been inactive.

Respectfully submitted,
C. F. RICHARDS, M.D., Chairman
O. A. JAMES, M.D.
S. W. ROSE, M.D.
F. S. SKURA, M.D.
V. D. WASHBURN, M.D.

Report accepted.

PRESIDENT SHANDS: The report on Medical Economics is next.

REPORT OF COMMITTEE ON MEDICAL ECONOMICS

In March, the Council of the Medical Society of Delaware referred to the Committee on Medical Economics the following question: "Regarding closed panel systems, what is or will be the attitude of the State Society regarding physician participation in those systems of medical care which restrict free choice of physician?"

Two meetings of the Committee were called prior to the Council's stated reporting date of April 9. In both cases, the Chairman was unable to establish a quorum, and feels it inappropriate to submit the following conclusion as a committee report. Having studied the report of the American Medical Association's Commission on Medical Care Plans, the Chairman is in agreement with the conclusion of this Society's Committee on Medical Service and Public Relations, to the effect that however desirable free choice of physician may be, good medical care *can* be rendered in its absence. Therefore, I recommended to the Council that Society's attitude be one of cooperation unless such cooperation is obviously not deserved. The closed panel plan is legal and is here to stay, and your Chairman suggests that the interests of everyone concerned will best be served by assisting whatever closed panel plans may develop in Delaware to provide the best possible medical care. The Chairman further suggests that the Society be alert for the institution of such plans in this state, so that sound intra-professional relationships can be developed, if warranted, from the start, for the benefit of all concerned and particularly of the patient.

Respectfully submitted,
LESLIE W. WHITNEY, M.D.
C. J. PRICKETT, M.D.
E. S. RESNICK, M.D.
E. L. STAMBAUGH, M.D.
O. N. STERN, M.D.

Report accepted.

SECRETARY CANNON: This is Dr. Gordy's report as Chairman of the Committee on Medico-Legal Affairs.

REPORT OF COMMITTEE ON MEDICO-LEGAL AFFAIRS

The Committee on Medico-Legal Affairs, together with its counterpart from the Delaware Bar Association, presented the Fourth Annual Medico-Legal Symposium at the Alfred I. du Pont Institute on Sunday, February 22, 1959. The facilities of the Institute were made available to the combined committee through the courtesy of Mrs. Alfred I. du Pont and Alfred R. Shands, Jr., M.D., Director of the Alfred I. du Pont Institute.

Co-chairmen of the meeting were the Honorable Daniel L. Herrmann, chairman of the Medico-Legal Committee for the Delaware Bar Association, and Philip D. Gordy, M.D., chairman of the Medico-Legal Committee for the Delaware State Medical Society.

The group was welcomed by Dr. Alfred R. Shands, Jr., Director of the Alfred I. du Pont Institute and President of the Medical Society of Delaware, and H. Albert Young, Esq., President of the Delaware Bar Association. The morning program consisted of a very interesting and informative discussion of the comparative merits of various plans that have been adopted for the

presentation of impartial medical testimony. This discussion was presented by Dr. William J. Curran, Director of the Law-Medical Research Institute of Boston University. The discussion was extremely interesting and informative and provoked many questions from the combined audience. Following this, a panel discussion took place on the problem of impartial medical testimony, particularly as it relates to the local medico-legal situation. Dr. James T. Metzger was the moderator of the panel, and the panelists were: David F. Anderson, Esq., Thomas Herlihy, Jr., Esq., David J. King, M.D., Harold Leshem, Esq., and Theodore B. Strange, M.D.

Following luncheon, the afternoon session was devoted to a demonstration of trial tactics in a case of traumatic neurosis. The trial team was drawn from local physicians and attorneys and consisted of: Irving Morris, Esq., Attorney for Plaintiff, Rodney M. Layton, Esq., Attorney for Defendant, H. Albert Young, Esq., Judge, Albert L. Ingram, Jr., M.D., Medical Witness.

Following the trial tactics demonstration, a panel discussion was presented in which various aspects of this particular medico-legal problem were explored. The panel consisted of: H. Albert Young, Esq., Albert L. Ingram, M.D., Jerome Kay, M.D., Rodney M. Layton, Esq., Irving Morris, Esq., Dewey A. Nelson, M.D. Following the panel discussion, the meeting was adjourned at 3:30 p.m.

The meeting was considered to be extremely informative and valuable, and it was felt that further sessions should be undertaken. Possibly these sessions might be in the form of smaller groups meeting several times during the year.

A review of the financial picture revealed a balance from the previous seminar of \$133.50. Total disbursements for the 1959 seminar were \$445.77. Receipts totaled \$564.00. Cash on hand as of March 4, 1959, was \$251.73.

The Committee wishes to thank all of those whose efforts resulted in the eminently successful Fourth Annual Medico-Legal Symposium.

Respectfully submitted,
PHILIP D. GORDY, M.D., Chairman
W. L. BAILEY, M.D.
JAMES BEEBE, JR., M.D.
S. S. BJORNSON, M.D.
J. L. FOX, M.D.
O. A. JAMES, M.D.
J. S. MCDANIEL, JR., M.D.
M. B. PENNINGTON, M.D.
O. J. POLLOK, M.D.
H. S. RAFAL, M.D.
V. D. WASHBURN, M.D.

Joint Committee on Medico Legal Affairs
of the Medical Society of Delaware
and the Delaware Bar Association
Wilmington, Delaware

Gentlemen:

We have examined the cash records of the Joint Committee on Medico Legal Affairs of the Medical Society of Delaware and the Delaware Bar Association for the period June 1, 1958 to May 31, 1959.

Recorded receipts were traced to deposits in bank and canceled checks were compared with check stubs and/or paid invoices. Cash in bank at May 31, 1959 was confirmed direct to us by

the Farmers Bank and was reconciled with the checkbook balance at that date.

In our opinion, premised on the scope of this examination, the attached statement presents fairly the cash position of the Joint Committee on Medico Legal Affairs of the Medical Society of Delaware and the Delaware Bar Association at May 31, 1959 and the results of its cash transactions for the period indicated.

Very truly yours,
HAGGERTY & HAGGERTY
Certified Public Accountants

JOINT COMMITTEE ON MEDICO LEGAL AFFAIRS

Comparative Statement of Cash Receipts and Disbursements

For the Years Ended May 31, 1959
and May 31, 1958

	Year ended		
	May 31, 1959	1958	Increase Decrease
BALANCES, JUNE 1	\$225.20	\$170.97	\$54.23
RECEIPTS:			
Legal symposium	559.00	572.75	13.75
	784.20	743.72	40.48
DISBURSEMENTS:			
Luncheon	285.20	295.00	9.80
Demonstration team	91.70		91.70
Guest speakers	85.82	136.77	50.95
Printing & stationery	54.75	56.75	2.00
Registration	20.00	30.00	10.00
	537.47	518.52	18.95
BALANCES, MAY 31	\$246.78	\$225.20	\$21.53

Report accepted.

PRESIDENT SHANDS: In discussion, I might say that Dr. Gordy who has been Chairman of this committee for at least two years or three years, has asked to be relieved. Dr. Metzger has now assumed the chairmanship.

DR. METZGER: The Delaware State Bar Association has also changed their representative from Judge Herrmann to Mr. Killoran, and our most recent activity was in regard to House Bill 265, which Dr. LaMotte and the Society of Undertakers were successful in having the Governor veto.

PRESIDENT SHANDS: The next is the report of the Medical Service and Public Relations Committee.

COMMITTEE ON MEDICAL SERVICE AND PUBLIC RELATIONS

The following is the report of the activities of the Committee on Medical Service and Public Relations:

The committee met in Dover on March 24, 1959. The first business considered was the question posed by the AMA's Commission on Medical Care Plans. This question was:

"Acknowledging the importance of free choice of physician, is the concept to be considered as a fundamental principle, incontrovertible, unalterable and essential to good medical care without qualification?"

It was the unanimous opinion of those present that the answer to that question must be "no".

The committee voted to pursue the health information card project, started by the preceeding committee. Several sample cards have been examined by members of the committee. At the same time, an analogous committee of the County Medical Society has been at work on the same project. These two committees should have a satisfactory card agreed upon before the first of the year.

The committee has worked on the problem of a syndicated health column. Results have been disappointing to date.

A planned half-day conference for physicians about to enter practice, stressing the business aspects of medical practice was postponed because of the small number of physicians who would have been interested in such a meeting in 1959. It was felt that plans for such a meeting should be entertained for 1960.

On May 14, 1959, the chairman took part in the Career Conference at Mount Pleasant High School. It is hoped that the results of this effort will be felt in a great influx of new physicians in 1971 or 1972.

In August, at the suggestion of the committee, Mr. Morris drafted a release for the Journal AMA concerning the dedication of the Academy of Medicine and the annual meeting of the State Society to be held there in October 1959.

The committee has planned to have another meeting during the annual session in October.

Respectfully submitted,
ALLSTON J. MORRIS, M.D., Chairman
J. B. BAKER, M.D.
D. D. BURCH, M.D.
R. R. LAYTON, M.D.
J. E. MARVIL, M.D.
E. R. MAYERBERG, M.D.
J. T. METZGER, M.D.

Report was accepted.

PRESIDENT SHANDS: The next is the report of the Medicare Adjudication Committee.

COMMITTEE ON MEDICARE ADJUDICATION

You will note that there is a considerable decrease in the number of cases referred to the Committee, which is undoubtedly due to the restrictions placed upon the Medicare Program in October, 1958. We have received from the Office for Dependents Medical Care that a restoration of many of the pre-October restrictions can be expected toward the end of 1959, but do not have any specific information on the subject. It is reasonable to assume, however, that the Committee workload will increase during the coming year.

The following summary presents each case without name, but with a general summary of the problem involved, the Committee's disposition, and the action of ODMC.

1. Request from surgeon for approval of fee for repair of laceration larger than those listed in the Schedule of Allowances.

Approved by Committee—accepted by ODMC.

2. Request from surgeon for approval of fee for treatment of large abscess, not adequately covered by Schedule of Allowances.

Approved by Committee—accepted by ODMC.

3. Request from surgeon for payment for two major operations performed on different dates through same incision. Medicare regulations specify that a second operation through the same incision shall be payable at 50% of the Scheduled Fee. The surgeon felt that the difficulty of the essentially unrelated operations and the fact that the use of the same incision was an elective measure justified two separate fees. The Committee referred this case for study, and concluded that the amount and type of work done did justify 100% of the allowable fee for each operation. The Committee so recommended—accepted by ODMC.

4. Request from obstetrician for compensation beyond the Schedule of Allowances for care rendered a patient developing complications of pregnancy. The Committee referred this case for study, and concluded that extra charges in this instance were not in accordance with local custom, nor compatible with the general level of Medicare Fees. The Committee recommended payment at the maximum allowable rate of the Schedule of Allowances. Accepted by ODMC.

5. Request from general practitioner for care rendered for complications of pregnancy co-incident with payment for ante-partum care. Case is now under study and has not been resolved.

Respectfully submitted,
E. R. MAYERBERG, M.D., Chairman
L. B. FLINN, M.D.
O. A. JAMES, M.D.
W. F. PRESTON, M.D.
H. W. SMITH, M.D.
G. M. VANVALKENBURGH, M.D.
R. O. Y. WARREN, M.D.

Report accepted.

PRESIDENT SHANDS: The next is the report of the National Defense Committee.

COMMITTEE ON NATIONAL DEFENSE

The Committee on National Defense did not meet and has no report to submit.

S. W. ROSE, M.D., Chairman
J. R. BECK, M.D.
L. M. DOBSON, M.D.
J. S. MCDANIEL, JR., M.D.
D. N. SILLS, JR., M.D.
A. C. SMOOT, JR., M.D.

Report Accepted.

PRESIDENT SHANDS: The next is the report of the Polio Immunization Committee.

REPORT OF COMMITTEE ON POLIO IMMUNIZATION

As requested in your letter of September 21, 1959, the following report is submitted for the Committee on Polio Immunization.

The Committee met only once, on February 3, 1959. At this time an intensified polio immunization program was outlined. Details were worked out later by telephone consultation. As a result, the following were arranged for and subsequently carried out:

1. Every physician was reminded of his responsibility of immunizing all eligible patients.
2. The State Board of Health provided polio-myelitis vaccine free.

3. The New Castle County Chapter of the National Foundation for Infantile Paralysis purchased disposable syringes and needles.

4. Special Immunization Clinics were arranged at strategic locations in each County, and these were manned chiefly by Board of Health physicians with a few volunteer physicians from the County Medical Society. Sixteen clinics were held from March through May, directed largely at the pre-school child, but adults, too, were given immunizations. These Clinics were well attended.

5. Basic immunizations and booster injections were given through schools under the Immunization Program of the State Board of Education.

6. Free vaccine was made available to all Clinics and to private physicians for those patients who could not afford the usual fee.

7. An educational campaign was carried out by means of press and radio in an effort to urge every person who needed immunization to obtain it.

Respectfully submitted,
H. H. STROUD, M.D., Chairman
JAMES BEEBE, JR., M.D.
ITALO CHARAMELLA, M.D.
R. W. COMEGYS, M.D.
M. I. HANDY, M.D.
J. F. HAYS, M.D.
F. I. HUDSON, M.D.
H. T. MCGUIRE, M.D.
R. O. Y. WARREN, M.D.

Report accepted.

PRESIDENT SHANDS: The last and the new one is the report of the Committee on By-Laws. We had a feeling that the by-laws should be revised. Nothing had been done in the way of revision in a very long time. Dr. Cannon was the Chairman of the committee which consisted of Dr. Comegys, Dr. Homan, Dr. Morris and Dr. Washburn, and they have come up with some suggestions.

REPORT OF THE COMMITTEE ON THE BY-LAWS RECOMMENDATION I

It has been suggested that a new type of membership in the Medical Society of Delaware be considered for physicians in government service and industrial medicine, so that these physicians may have access to membership in the American Medical Association without having licenses to practice medicine in the state of Delaware.

Your Committee considers enactment of this proposal desirable, and suggests the following:

- a. That Article III, Section 1 be amended to read: "This Society consists of (a) active members, (b) associate members, (c) honorary members."
- b. That a new Section 3 of Article III be added, to read: *Associate Members*: Associate members may be members of the medical profession on duty with the Armed Forces of the United States, governmental service at any level or those engaged in the practice of Industrial Medicine. Associate

members have all rights and privileges of active members, and must be members in good standing of a component county medical society.

- c. "That all sections of Article III following the above Section 3 be renumbered in sequence."
- d. "That the present Section 6 of Article III be amended to read: "... each active and associate member shall pay as annual dues to the Society, \$50."

The Committee recommends adoption of this portion of the report.

SECRETARY CANNON: Shall we take these up separately, Mr. President?

PRESIDENT SHANDS: I think we should.

DR. MCGUIRE: I will move that we adopt the first recommendation.

DR. WASHBURN: Let me call attention to page 38 of the by-laws:

"The House of Delegates may amend these by-laws at any annual session by unanimous consent providing the motion or resolution to amend was introduced the day before the amendment was adopted, and provided further, that at least 25 members of the House are present and voting when the amendment was adopted. In the event of a dissenting vote the amendment shall lie over for the action—"

It does say the subsequent annual meeting. I thought it referred to something else.

PRESIDENT SHANDS: The dissenting vote. That means one vote.

DR. WASHBURN: May I suggest that to expedite this, you ascertain if not necessarily by the cumbersome procedure of a motion and a second as to each one, but in the absence of dissent we agree that we accept a given thing. We can accelerate and speed the procedure so that in the end we will be in a position to say we have adopted or we have not.

The motion was made, seconded and carried.

PRESIDENT SHANDS: Is there any discussion or dissension as to this first recommendation, which has to do with associate membership? This has been carefully gone into and has been recognized by the A.M.A. I don't think there is anything controversial. If there is no dissenting word, we will assume that has been passed.

Recommendation I was accepted.

SECRETARY CANNON: The second by-law change has to do with legalizing Mr. Morris' status.

RECOMMENDATION II

It has been suggested that the authority of the Council to engage an executive secretary and staff be written into the By-Laws.

Your Committee considers enactment of this proposal desirable, and suggests the following:

- a. That Article V, Section 1 be amended to read: "The executive officers of the Society are the President, Vice-President, President-elect, Secretary, Treasurer, and Executive Secretary. The executive secretary shall be a member ex-officio without vote of all

standing and special committees. He shall not be subject to the rules of qualification, election, and tenure that apply to other officers within these By-Laws.

- b. That in Article VII, Section 1, an item 4, be to read: "The Council shall authorize the employment and define the duties of the executive secretary. The executive secretary shall be responsible for the administration and duties of the staff."

The Committee recommends the adoption of this portion of the report.

PRESIDENT SHANDS: This simply legalizes what Mr. Morris has done during the last several years, and it is in order.

Recommendation II was accepted.

RECOMMENDATION III

It has been suggested that efficiency of administration of the Society would be improved by having the terms of the executive officers and standing committees end at the close of the annual meeting.

The Committee considers enactment of this proposal desirable, and suggests the following:

- a. That the final sentence of Article V, Section 3 be amended to read: "All executive officers shall assume office at the conclusion of the annual meeting, and shall serve until the corresponding session of the following annual meeting."
- b. That Article XI, Section 4, be amended to read: "The members of standing committees shall be elected annually by the House of Delegates to serve one year terms, beginning at the final session of the annual meeting and terminating at the corresponding session of the following annual meeting."

The Committee recommends the adoption of this portion of the report.

SECRETARY CANNON: That means Dr. Shands will be denied part of a year, but the subsequent officers and committees will serve for the year corresponding to the annual meeting.

PRESIDENT SHANDS: This has a lot of merit and I very strongly feel that it is a good recommendation, that the President or officers of a committee work up to an annual meeting, then a new group should take over. In the past we had the annual meeting and then the officers continued on until the first of the year. There is a period there, almost a vacuum period, where the old President may not want to do something because the new President is coming in. I feel it would make it a much more effective organization if we do it this way.

Recommendation III was accepted.

RECOMMENDATION IV

It has been suggested that the duties of the President be redefined to include authority to act as spokesman for the Society, and to execute such contracts and agreements on behalf of the Society, under the authority of the House of Delegates, as may be required.

The Committee considers enactment of this proposal desirable, and suggests the following:

"That Article V, Section 6 be amended to read: "The President shall be the chief executive officer of the Society. It shall be his duty to preside at all general meetings of the Society, of the Council and of the House of Delegates; to have general and active management of the business of the Society; to see that all orders and resolutions of the Society, House of Delegates and Council are carried into effect; to execute all contracts and agreements authorized by the Society, House of Delegates or Council, to make such appointments of personnel as are authorized and to act as official spokesman of the Society; to deliver an address at the annual session at such time as may be arranged; to act as the real head of the profession in the state and to visit personally at least once during his term of office each component Society; to assist the Councilors in building up the component societies in making their work more practical and useful; to serve as a member of all standing and special committees; to make an annual report to the House of Delegates; and to appoint all committees not otherwise provided for."

The Committee recommends adoption of this portion of the report.

PRESIDENT SHANDS: This strengthens the President's position which is something that the President of an organization should have. It is spelled out as to his authority in what is done. Are there any discussions or comments? Is there any dissent?

Recommendation IV was accepted.

RECOMMENDATION V

It has been suggested that the Vice-President and President-elect be made members of the House of Delegates.

The Committee considers enactment of this proposal desirable, and recommends the following:

That Article VI, Section 2 be amended so that it will read: "The President, Vice-President, President-elect, Secretary, Treasurer, and the elected Councilors.

The Committee recommends adoption of this portion of the report.

Recommendation V was accepted.

RECOMMENDATION VI

It has been recommended that the Vice-President and the Editor of the Society's Official Publication be made members of the Council.

The Committee considers enactment of this proposal desirable, and suggests the following:

That item 2 of Article VII, Section 2 be amended to read: "The President, President-elect, immediate Past President, Secretary, Treasurer, Delegate to the American Medical Association and the Editor of the Society's Official Publication."

The Committee recommends adoption of this portion of the report.

PRESIDENT SHANDS: I think this is very much in order. It will make the Council a better organization because I think the Vice-President and

the Editor of the Journal certainly should be members, as is true in most organizations.

Recommendation VI was accepted.

RECOMMENDATION VII

It has been suggested that this Committee on By-Laws more clearly define the order of precedence of the Vice-President and the President-elect.

The Committee recommends the following redefinition:

- a. That the last sentence of Article VII, Section 3 be amended so that it reads: "The President shall preside at the meetings of the Council and in his absence the Vice-President shall preside and in his absence any member of the Council agreeable to it may preside."
- b. That Article V, Section 7 be deleted and in its place there be added:
"Section 7—The Vice-President shall assist the President in the discharge of his duties and shall officiate for him during his absence or at his request."
"Section 8—The President-elect shall assist the President in the discharge of his duties and may officiate for him during the absence or at the request of the President and the Vice-President. The President-elect shall be prepared to assume the responsibilities of the presidency without delay upon the expiration of the President's term."
- c. That the present Section 8 and 9 of Article V be renumbered to Section 9 and 10.

The Committee recommends adoption of this portion of the report.

PRESIDENT SHANDS: This is just simply establishing or detailing in our by-laws the relationship of the President-elect and the Vice-President to the President.

Recommendation VII was accepted.

RECOMMENDATION VIII

It has been suggested that the duties of the Councilors be redefined to include provision for their reporting to the component county medical societies of the actions of the Council.

Your Committee considers enactment of this proposal desirable and suggests the following:

That Article VII, Section 5 be amended to read: "Each elected Councilor shall be the judicial representative of this Society in the district from which he was elected. He shall inquire into the condition of the profession and endeavor to improve and increase the zeal of his component society and its members. He shall report promptly the proceedings of the Council to his component society. He shall make annual report of his work, and of the condition of the profession in his county or district to the Council prior to its annual meeting."

The Committee recommends adoption of this portion of the report.

PRESIDENT SHANDS: This one simply makes a more effective and closer-knit organization in the State so that the county societies know what the State Society Council is doing. We are hoping

that the minutes of the meetings of the State Society Council may be published, but at the same time it would be much more effective if the Councilor or one of the Councilors from each county would report to his society at the next county society meeting following the meeting of the Council.

Recommendation VIII was accepted.

RECOMMENDATION IX

It has been suggested that because of the mechanical and legal restrictions upon the prior action of the House of Delegates in placing the Society's fiscal year on an August 1-July 31 basis, that the fiscal year be returned to a calendar year basis.

The Committee has considered the reasons underlying this suggestion, and believes that enactment of this proposal is desirable.

The Committee suggests the following:
That Article X, Section 2 be amended to read:
"The fiscal year of the Society shall be from January 1st to December 31st inclusive."

The Committee recommends adoption of this portion of the report.

SECRETARY CANNON: AS I understand it, we tried to change the fiscal year to correspond to the County Society's fiscal year, to more or less relate it to our annual meeting. Otherwise the financial report is actually on a nine-month basis. But we were blocked by the United States Government in this regard, because the Internal Revenue felt that as a tax-free organization we had to conform with the calendar year and not make the change unless it required elaborate application and modification. Consequently we went back to the calendar year.

Recommendation IX was accepted.

RECOMMENDATION X

The Committee believes that the organizational structure of the Medical Society of Delaware could be made more effective with the institution of certain changes to strengthen inter-committee communication, delineation of policy, development of leadership from within the profession, and the deliberating mechanisms of the House of Delegates. The Committee is aware that no amendment to the By-Laws can of itself accomplish these purposes, but believes that a mechanism can be built into the By-Laws to provide a means. For this reason, the Committee recommends the following major change in the organizational structure of the Society:

- a. That a new article be added to the By-Laws, to be known as Article VIII — Commissions, and to read as follows:

"Section 1; Composition: There shall be two commissions, to be known as the Commission on Public Affairs and the Commission on Scientific Affairs. Each Commission shall be composed of the chairman of those committees of the Society whose functions are judged by the President to be primarily scientific or primarily socio-economic. All committees will be represented on one commission only, except that the Committee on Nominations and the Committee on the Budget will be represented on both. The

Secretary shall be chairman ex-officio of the Commission on Public Affairs, and the Vice-President shall be chairman ex-officio of the Commission on Scientific Affairs.

Section 2; Duties: It shall be the duty of each Commission to:

1. Serve as a planning committee and committee on committees for those activities of the Society within its field of study.
2. To serve as a reference committee within its field of study for the House of Delegates.
3. To meet not less than three times each year to review and project the work of the Society within its field of study.
4. To delineate policy and program within its field of study, subject to the approval of the House of Delegates and/or the Council. This is not to limit the initiating authority of the House of Delegates or the Council.
5. To coordinate the activities of the committees within each Commission.

"Section 3; Duties of Commissions When Acting as Reference Committees: Each Commission shall hold itself available for one meeting during the week preceding the Annual Meeting, to serve as a Reference Committee for the House of Delegates. The President shall refer all resolutions to be presented to the House of Delegates to one of the two Committees, as he thinks appropriate, and each committee must report to the House of Delegates, favorably or unfavorably, upon each resolution referred to it. A majority of the members of the Commission will constitute a quorum for Reference Committee purposes.

"Any resolution to be offered before the House of Delegates must be referred first to a Reference Committee for study and report. No exception can be made to this section without the unanimous consent of the House of Delegates.

"Commissions when acting as Reference Committees may summon officers, members or employees of the Society for such information as may be needed to formulate their conclusions and recommendations.

"A member of a Reference Committee who wishes to make a minority report must refrain from signing the majority committee report and must make his intentions known to the other members of the Reference Committee while it is in executive session and prior to the presentation of the majority report to the House of Delegates.

"Section 4; Subordination to the Council: Actions or recommendations of Commissions shall be reported to the Council at its next meeting. It shall be the duty of the Commission chairman to report the activities of his Commission to the Council. The Council shall have the right to approve or disapprove actions or recommendations of Commissions."

- b. "That Article V, Section 7 be amended by the addition of the following sentence: "The Vice-President shall serve as chairman of the Commission on Scientific Affairs."
- c. "That Article V, Section 8 be amended by the addition of this sentence: "The Secre-

tary shall serve as chairman of the Commission on Public Affairs."

The Committee recommends the adoption of this portion of the report.

PRESIDENT SHANDS: This is the new substance of the by-law changes in the best interests of the organization and the Society. Our committees have not been too well knit together, and personally I think this is good.

Are there any comments or questions of Dr. Cannon or Mr. Morris? They have thought about it a great deal, and this has been discussed in detail by the By-Laws Committee. How effective the operation will be will depend upon the leadership of the Secretary and the Vice-President. It would give them something very definite to do and be a very constructive part of the operations and affairs of the Society.

DR. MORRIS: I would like to ask a question about the section where it states that an individual wanting to submit a minority report should have his hands tied to some extent. What is the reasoning for this?

SECRETARY CANNON: It reads as follows:

"A member of the Reference Committee who wishes to make a minority report must refrain from signing the majority report and must make his intentions known to other members of the Reference Committee while it is in executive session and prior to his presentation of the majority report to the House of Delegates."

I do not see that it ties his hands. It merely states his position. He doesn't sign the majority report but makes his own report after stating his intention of doing so.

PRESIDENT SHANDS: That is the way it operates with majority and minority reports in most groups, in most courts of law.

DR. DEWEES: Presumably one of the meetings of these commissions would have to be sometime fairly soon before the annual meeting of the House of Delegates. I suppose this is an administrative detail for the chairman to work out. But if resolutions have to be approved by one or the other of these commissions, except the unanimous consent of the House, the business that is going to come before the House of Delegates would have to go through one of these commissions first.

SECRETARY CANNON: In the past, resolutions were submitted to the Council along with committee reports in advance of the annual meeting or this House of Delegates meeting. Instead of going to the Council they would now go to one of these commissions where, if there was any investigation of the resolution, or its desirability, the commission could have a hearing on it.

This is all new to me. I am sure Dr. McGuire can tell us more about reference committees and their function in relation to, say, the House of Delegates of the A.M.A. We may have very little use for this, but it provides mechanics for functioning as a reference committee.

DR. MCGUIRE: This is substantially the way the House of Delegates of the A.M.A. operates. Right now it has resolutions going in for the interim session meeting, and then these are referred by the Speaker of the House to whatever

reference committee is appropriate in that particular resolution.

There is still time left open for the introduction of new resolutions that may develop as an outgrowth of those that have previously been introduced. So I would say this conforms pretty much to the National.

DR. FRELICK: This printed sheet here is not going to be part of the by-laws, or is it? In other words, is the Polio Immunization Committee at the present time a committee that is part of the by-law set-up? I think this is a committee that was appointed arbitrarily in the recent past by the President, and according to this, the chairman would be put on the reference committee. Does this mean, for example, that a new occasion would arise wherein a new committee should be formed where this chairman would automatically be put on this committee or these committees to be set up as such in the by-laws?

PRESIDENT SHANDS: I think Mr. Morris can answer that, but it would be my understanding that these would change from year to year, and this would not go in the by-laws because ten years from now we may not have all these same committees.

SECRETARY CANNON: The only fixed committees are the standing committees, and each year we appoint special committees which would be divided into these two areas.

EXECUTIVE SECRETARY MORRIS: This is something we worked out as an illustration the other night. We took the committees we now have. There is nothing official about it. It is simply an explanatory supplement to the report. It is not a part of the report.

DR. WASHBURN: It seems to me there is a paragraph which makes clear that the rights of the House of Delegates are preserved. In other words, it is my understanding that members may introduce resolutions, initiate actions and things of that sort.

SECRETARY CANNON: It says:

"The duty of the Commission is to delineate policy and program within its field subject to approval of the House of Delegates and/or Council. This is not to limit the initiating authority of the House of Delegates or the Council."

PRESIDENT SHANDS: My reaction to this is that it is a step in the right direction. It may seem a little bit complicated as it is presented on paper, but it should work very simply. I think it is something that should be tried. If, after two or three years, it does not seem to be working, the by-laws can be changed.

SECRETARY CANNON: As Mr. Morris said one time when we were going over this, "If the Secretary and the Vice-President completely fall down on their faces and don't call their commissions together, the committees will continue to operate in the same manner as they have in the past." If this is going to make it better, it is up to the Secretary and the Vice-President to do it. It may improve the lines of communication between the committees and the Council and the officers and the House of Delegates.

Recommendation X was accepted.

RECOMMENDATION XI

It has been suggested that the Committee on Scientific Work be redefined as a program committee, and the Secretary because of his chairmanship of the Commission on Public Affairs, be relieved of this responsibility.

Your Committee considers enactment of this suggestion to be desirable, and recommends the following:

That Article XI, Section 6 be amended by deleting the title Scientific Work and substituting the title Program. That the first sentence of his section be amended to read: The Committee on Program consists of three elected members.

The Committee recommends the adoption of this portion of the report.

PRESIDENT SHANDS: We have never had a real functioning Program Committee, and the Committee on Scientific Work was originally intended to be the Program Committee. In the past the President has been his own Program Chairman, which has at times been rather difficult. This will set up a real Program Committee.

Recommendation XI was accepted.

RECOMMENDATION XII

The Committee recommends that the Executive Secretary be authorized to publish a new edition of the Charter and By-Laws of the Medical Society of Delaware, incorporating the amendments thereto up to and including those of 1959.

The Committee recommends adoption of this portion of the report.

The Committee recommends adoption of the report as a whole.

Respectfully submitted,
N. L. CANNON, M.D., Chairman
R. W. COMEGYS, M.D.
J. B. HOMAN, M.D.
A. J. MORRIS, M.D.
V. D. WASHBURN, M.D.

PRESIDENT SHANDS: The eleven sections have been approved, accepted, and the only action needed is on this last one, recommending that the Executive Secretary be authorized to publish a new edition.

DR. WASHBURN: I think there are two recommendations there, first, that there is an authorization to publish an edition. The other is that you must adopt a motion of this House adopting officially, the amendments that have been agreed upon.

PRESIDENT SHANDS: A motion is in order first to adopt the eleven changes in the by-laws.

A motion was made, seconded and carried to adopt the eleven changes in the by-laws.

PRESIDENT SHANDS: Now a motion is in order to authorize the Executive Secretary to publish a new edition of the charter and by-laws.

A motion was made, seconded, and carried to authorize the Executive Secretary to publish a new edition of the charter and by-laws.

The complete report of the Committee on By-Laws was accepted.

PRESIDENT SHANDS: Thank you very much. We have now completed the majority of the business of the House of Delegates meeting and I think a recess for about five minutes would be in order.

PRESIDENT SHANDS: Our next part of the program is reports of delegates and representatives. First is Dr. McGuire, who is going to report as the delegate to the A.M.A.

DR. MCGUIRE: I will try to summarize the activities of these two meetings. The annual meeting activities were reported in the Journal. The A.M.A. news carried pretty much, in detail, the activities of the House of Delegates. If I may have the privilege, I will summarize these in the interests of everyone.

The essential action of the A.M.A. House of Delegates' Atlantic City meeting June 8 to June 12 were as follows:

One, the rejection of compulsory inclusion of physicians in the Social Security program. I might interpolate here, that if there are any questions about any of these actions, I will be glad to answer them if I can.

Two, the relationship between medicine and osteopathy. You know that a special committee was appointed four years ago, whose recommendations were rejected. They came back this time with a favorable report that a joint committee of the A.M.A. and the A.O.A. begin to discuss the possibility of better relationship from the standpoint of teaching, consultation and practice of osteopathy and general medicine. Now that osteopathy is so intermingled with medical economics and all the pre-payment plans, insurance programs, and so on, it behooves us to attempt to improve or implement the practice of osteopathy. But, as you know, the A.O.A. House of Delegates and their President, at their meeting in Chicago rejected this. We are now back to where we were.

The next item was preparation for general practice, and the recommendation was made for two-year internship, eighteen months in medicine and pediatrics, six months in elected subjects, four months in O.B. and gynecology.

The next action of considerable importance was the third party plans or the report and support of Dr. John S. DeTar's Committee on the Third Party Plans. I will say more about that in a minute.

In summary, the American Medical Association believed that free choice of physicians is the right of every individual and one which he should be free to exercise as he chooses. Each individual should be accorded the privilege to select and change his physician at will or select his preferred system of medical care. The American Medical Association vigorously supports the right of the individual to choose between these alternatives.

Finally there was the election of officers. The President-elect was E. Vincent Askey, M.D., of Los Angeles; Vice-President, James S. Kenney, M.D., of New York; Speaker of the House, Norman A. Welch, M.D., of Boston; Vice-Speaker, Milford O. Rouse, M.D., of Dallas.

These were the essential activities of the A.M.A. meeting. We had the privilege of having Governor Boggs appear before the breakfast meeting of the Aces and Deuces, which is an organization within the House comprised of delegates from one and

two delegate states. This, incidentally, comprises 27 of our states because the House of Delegates is made up as the Congress of the United States by physician population, one per thousand. The South, Middle-West and most of the mountain states have only one or two. There are several that have gone to three.

I asked Governor Boggs to come down to give a little discourse on Delaware because there has seemed to be a lot of geographical ignorance. West of Harrisburg they talk about Delaware being a county in Pennsylvania, a part of Maryland or appended to the southern tip of New Jersey.

He asked me to write a speech and I said, I would rather tell him what not to say. Don't talk about socialized medicine, the Forand Bill, but talk about Delaware, I told him. Say that it was discovered by the Swedes, later the English came, then the Dutch, and it was currently run by the Irish, but he thought that was politically inappropriate. It was quite a privilege to have him come down and he gave a very friendly kind of talk that he is so facile in doing, and everyone, including the ladies who were there, were very appreciative. I, through your association, felt very privileged because he considerably inconvenienced himself to come down there, (for this 7:15 in the morning breakfast,) the night before he spoke.

The Minneapolis meeting was a development of some of the things that were inferred to at the Atlantic City meeting. Principally, they were on osteopathy and again on medical economics committee and on a further expression of the concern and distinct emphasis on the health needs of the aging and report of the Commission on Medical Care Plans, which also involved many aspects of the aged. Incidentally, Dr. Caighlin was named general practitioner of the year. He was from Farmington, Iowa.

PRESIDENT SHANDS: Are there any questions of Dr. McGuire? I think Dr. McGuire has done a splendid job and has represented us extremely well. I have several unsolicited letters from fellow members of the House of Delegates about his work which have been most complimentary.

DR. DEWEES: If I understand the situation, the the A.M.A. committee on osteopathic problems attempted to get closer cooperation and essentially rejected it.

DR. MCGUIRE: Yes. Five years ago a committee was set up by the Board of Trustees which was called the Klein Committee—because he was then President—and was formed on his urging. They have the osteopathic problem to a considerable degree in California since they have a state-supported school of osteopathy there. The Klein Committee then made a report similar to the one that was made this year. There was also a minority report by Dr. Rouse of Texas who got enough votes in the House to turn down the Klein report. The committee had spent five years—they had had men like Dr. Appel, Hugh Hussey at Georgetown—who actually sat in osteopathic groups a week at a time, went to their clinics, reviewed their textbooks and every phase of osteopathy—and the one demand they made was that the Osteopaths withdraw, discard or forget about the principle of Andrew J. Still.

This was a complete and thorough-going study of all aspects of osteopathy. In 1959 at our meeting here, the majority report of 1954 was endorsed by the House rather than rejected, and it was sent

to the House of Delegates of the American Osteopathic Association, which met following our meeting in Chicago. They in turn rejected the whole thing with a considerable blast in the public press.

The reasoning for this was because we have a hospital here, physicians practicing osteopathy that have the same rights and privileges that you have, who participate in pre-payment plans and all insurance programs, and so on. Osteopathy has now graduated from the general practitioner into the area of major surgery. Dr. Abiss knows a lot more about this aspect of the problem than I do. It is now felt that medicine could make a good contribution in the interests of the over-all public health problem and the good practice of medicine by eventually absorbing these osteopathic schools.

That was the general objective, but has been denied by the A.O.A.

DR. WASHBURN: Am I entirely wrong in my impression that a part of the reason for these overtures, on the part of the American Medical Association toward absorbing or taking into the fold the osteopathic profession, is to be found in the fact that by law in a number of states, it would be impossible to continue the old approach? Now, inasmuch as by law the osteopaths are entitled to serve on hospital staffs, and, as a matter of policy, as well as because of the conflict requiring this was it not because of laws requiring this that this action was taken by the American Medical Association?

DR. MCGUIRE: That is a part of it but now it is a matter of ethics.

DR. WASHBURN: Now, they are authorized to consult with the Board.

DR. MCGUIRE: Before, but now it is a question of whether this action of A.O.A. in rejecting it makes it illegal or unethical on our part, to consult with an osteopath or to work in an osteopathic hospital according to our code of ethics at the moment, or to teach.

Now it is being covertly circumvented because there are many physicians who are consulting and teaching and giving opinions to osteopathic hospitals and practitioners. But there is a legal and an ethical consideration.

DR. FRELICK: What is the future in relation to the Social Security status? Is there anything which this House of Delegates should do in view of the vote in the state, to keep the issue alive at a national level?

DR. MCGUIRE: Yes. I think last year a resolution was passed by the A.M.A. House to get a poll of delegates. Some of the larger delegations from states like New York, Illinois, California, have been introducing resolutions yearly. They represent 15,000 in New York, 12,000 in California, 11,000-and-some in Illinois. But the polls that have come in have been inconclusive. For instance, our own poll was not definitive.

EXECUTIVE SECRETARY MORRIS: More than half of the members voted but less than half of the members took any stated position.

DR. MCGUIRE: Then 12 or 15 took in equivocal debates and essays.

I would like to make this observation about the Reference Committee—that the Speaker of the House is a very powerful individual and it is he

who appoints reference committees. The Reference Committee to whom this business is being referred, the Medical Economics Committee—continually has rejected it. They have come back with a negative report and have had strength enough to sustain their action in the House.

All anyone can do locally is to make his feelings known. At the Atlantic City meeting there were about six hours of hearings on this thing and there were many, many vocal people, very opinionated and enthusiastic, and well informed people in favor, but they did not impress the Reference Committee. And they succeeded in not accepting this modification.

PRESIDENT SHANDS: Thank you, Dr. McGuire, very much for that informative report. Next is report of Dr. Washburn, representative of the Delaware Academy of Medicine.

REPORT OF THE REPRESENTATIVE TO DELAWARE ACADEMY OF MEDICINE

We meet today for the first time in the Delaware Academy of Medicine as remodeled and enlarged, lovely, dignified and yet functional. I have the conviction that members of the Medical, Dental and Allied professions who will be privileged to make use of the facilities to be found here will be inspired and impelled to be found worthy of the confidence and respect which is implicit in the financial support of our lay friends, without which it would not have been possible to erect this building and these facilities at this time.

It should be recorded that in this building we now house the Executive Offices of this Society, the State Dental Society and the New Castle County Medical Society. In addition, facilities are provided for the Woman's Auxiliary of the New Castle County Medical Society, the Delaware Diabetes Association and the American Cancer Society, Delaware Division.

An extensive periodical library is maintained as well as a medical and dental library.

The Academy of Medicine in cordial and close cooperation with the News-Journal Newspapers, Group Hospital and the Welfare Council has continued to conduct Health Forums for the general public.

Since the last meeting of the Medical Society of Delaware, the Health Forums have been as follows.

1. "What's New For the Diabetic" by Dr. Howard K. Root, Medical Director of Joslyn Clinic, Boston, Massachusetts.
2. "Treating your Itches, Rashes, and Eruptions" by Dr. Albert Kligman, Professor of Dermatology, University of Pennsylvania Medical School.
3. "The Turning Point in Mental Health" by Dr. William Menninger of the Menninger Foundation, Topeka, Kansas.
4. "New Drugs and the Quest For Health" by Dr. John C. Krantz, Jr., Professor of Pharmacology, University of Maryland Medical School.
5. "Headaches" by Dr. Perry S. MacNeal, Associate Professor of Clinical Medicine, University of Pennsylvania Medical School.
6. "Emotional Development and Disturbances of Childhood." by Dr. Louise Bates Ames,

Director of Research at the Gesell Institute of Child Development.

7. "Life Stress and Bodily Disease" by Dr. Stewart Wolf of the University of Oklahoma Medical Center.

The first Annual Lecture on Diseases of the Chest jointly sponsored by the Delaware Anti-tuberculosis Society and the Academy was held at the A. I. duPont Institute on March 9, 1959. Doctor J. G. Scadding of London delivered an outstanding lecture on "Sarcoidosis."

Respectfully submitted,
V. D. WASHBURN, M.D. Chairman

DR. WASHBURN: I submit this report knowing that kind words will be said elsewhere, but I feel that we, as doctors, should be very conscious of the fact that without the financial contribution of our lay friends we would not have that which we have, and we should be very grateful and officially record that fact in our transactions.

PRESIDENT SHANDS: Next come the 4 Liaison Reports.

LIAISON WITH MENTAL HEALTH ACTIVITIES

The fiscal year 1958-59 was a period of continued progress in mental health activities in Delaware. Improved physical facilities in several areas and expanded program of service are tangible evidence of advancement in this field.

In accord with the growing emphasis on the need of coordinating all community resources to meet the man-power shortage in mental health personnel as well as to increase the number of persons who may assist in a preventive program in mental health, in September, 1959, a ten week post graduate course in Psychiatry for the Family Physician was sponsored by the Delaware Chapter of the American Academy of General Practice, the Mental Health Association of Delaware, and the United States Public Health Service. Sixty-five physicians registered for the course. An additional ten to twelve physicians attended individual sessions. The lectures were opened on a non-credit basis to non-medical personnel working in various institutions and agencies in and around Wilmington. An average attendance of 112 included social workers, psychologists, registered and student nurses, personnel from the state training schools, members of the State Department of Police. There were four State policemen who attended every session.

On June 11, 1959, the new medical center and mental hygiene clinic building at the Hospital For The Mentally Retarded, Stockley, Delaware, was dedicated and named for your Liaison, the Dr. M. A. Tarumianz Medical Center. The hospital section of the building provides accommodations for 150 adult and child patients in its four separate wings. This building, including the Mental Hygiene Clinic unit, provides complete minor and major surgery facilities, a dental clinic, a radiology section, a clinical laboratory, an electroencephalography suite, a pharmacy, and other necessary ancillary services. In addition to the psychiatric and therapeutic facilities provided for the modern care and treatment of children and adults, the new medical center and mental hygiene clinic at Stockley make available research facilities for the study of the problems of the mentally retarded and training facilities for the preparation of personnel for various aspects of the care and treatment of the mentally retarded.

The medical center is already occupied by patients transferred from the former medical center at the Hospital For The Mentally Retarded.

Soon to be opened is the new acute and convalescent unit at the Delaware State Hospital. This building will provide in wards of one, two-, and four-bed rooms, accommodations for 175 mentally ill patients during the acute or convalescent stage of their illness.

The Drug Therapy-Home Care program instituted during the previous fiscal year, continues to return to normal life in the community, some patients who formerly would have required long hospitalization. During the past fiscal year 87 left the hospital on this program.

The Research Division at the Delaware State Hospital has continued to make a significant contribution in the field of medical research. The National Institute of Mental Health in April approved a grant of \$25,000 for three consecutive years. This third grant to the Delaware State Hospital Division of Research makes possible a project entitled Clinical Exploration of New Psychotropic Compounds.

The Research Division of the Delaware State Hospital was host to a conference of Directors of Research in the United States, Smith, Kline, and French Pharmaceutical Company co-sponsored meeting, which was held near Wilmington, Delaware, on April 25 and 26, 1959. Twenty-five directors of research participated.

There has been continued and coordinated effort at the Delaware State Hospital to shorten the period of hospitalization for as many patients as possible. Various programs of intensive therapy in addition to psychotherapy and drugtherapy have contributed much to the success of this endeavor.

In March, 1959, the Delaware State Hospital was approved by the Board of Examiners of Graduate Nurses of the State of Delaware as "an agency for Psychiatric Affiliation for Professional Nurses." The Nursing Education program at the Delaware State Hospital is now accredited in Virginia, Maryland, and Delaware.

The Mental Hygiene Clinics at Farnhurst and at Stockley, Delaware, through the Evening Clinic, have given outpatient psychotherapy to adults during the fiscal year 1958-59. Meanwhile, the day time clinics continue to provide preventive, diagnostic, and therapeutic services in the mental health area. A total of 1,333 persons of all ages received service. Of this number 649 were new cases.

The Governor Bacon Health Center continued to serve the citizens of the State of Delaware. During the past fiscal year a total of 46 emotionally disturbed children (33 males, 13 females) were admitted for the first time for residential care. There was one readmission to the Maladjusted Children's Unit, a male child. Through the other divisions the Health Center has met other medical-social needs of Delawareans.

The Day Care Centers for severely mentally retarded children have increased in program and in number of children served.

The Wilmington Child Guidance Clinic, a privately operated agency, offers diagnostic and therapeutic services to children. Psychiatric treat-

ment is available for children between the ages of four to sixteen years. Occasionally psychotherapy is given to children under four years of age, depending on the severity of their problems. Through casework, parents of the patients are given assistance.

A very successful Mental Health Week was observed in Delaware from April 27 to May 3, 1959. April 30th the annual meeting and luncheon of the Mental Health Association of Delaware brought together a large number of lay and professional persons interested in Mental Health. The speaker of the occasion was Dr. Francis Braceland, Superintendent of the Institute of Living, at Hartford, Connecticut. Open House was held at the Hospital For The Mentally Retarded as a part of the week's activities.

Members of the staffs of the State Psychiatric institutions and agencies as well a representative of the Mental Health Association of Delaware participated in the spring conference on the Northeast State Governments Conference on Mental Health, which was held at Hartford, Connecticut on April 8-10, 1959. This conference was under the chairmanship of your Liaison Officer. Several staff members of the Delaware State Hospital staff and representatives of the Delaware press and radio attended the Northeast States Conference on Mass Media In Mental Health Communication, held at New Haven, Connecticut, on March 17-19, 1959. The conference helped to interpret to members of the press, radio, and television some of the problems and needs of the psychiatric institutions and the role of the communications agencies in transmitting such information to the public.

While progress in mental health continues to be made in Delaware, there is still much to be done to provide adequate resources for preventive, diagnostic, therapeutic, and rehabilitative services in the mental health field. The supply of professional personnel to staff the residential and outpatient facilities available at present is too meager to do an adequate job. There is great need for more and better training facilities in the State for professional personnel. There is also the need for continued education of the public regarding the evidences of mental illness or handicap and emotional disturbance. The public must also be made more aware of the need of the psychiatric institutions and agencies for adequate funds for preventive work as well as for the treatment of patients. Medical personnel must continue in the treatment role, as that is their function. They must also seek the cooperation of all others in the community who can assist in preventing mental break-down and in identifying early signs of mental illness or emotional disturbance. Only through cooperation of the members of the medical profession and the members of other professions and community agencies can the goal be achieved of more adequate mental health services for all who now need or may need such help.

Respectfully submitted,
M. A. TARUMIANZ, M.D.

LIAISON WITH DELAWARE DIVISION, AMERICAN CANCER SOCIETY

It is with pleasure, that I report to you on the work done in Cancer, in the State of Delaware by the Delaware Division of the American Cancer Society. As the liaison officer of this society, I

have had the privilege of entering into and becoming well acquainted with the Cancer Society's activities. The most educational and enjoyable one being a work shop held in New York for The Northwestern States. The work shop was directed toward how we can obtain better contact with the medical profession and in this way have better co-operation in the proper handling of cases or suspicious cases of cancer.

I would like to break this report down into four separate headings each in turn to be discussed and elaborated. The first of these to be Professional Information to be followed in order by Public Information, Professional Services and finally Patient Services.

I PROFESSIONAL SERVICES

In 1958-1959, 1226 reprints were sent out in answer to requests by clinics and nurses. Books on cancer were supplied to The Beebe Hospital, the Kent General Hospital, the St. Francis Hospital, the Riverside Hospital, the Visiting Nurses Association and the Practical Nurses Course of the Brown Vocational School. These were used for reference and teaching purposes.

All physicians and the osteopaths in the State of Delaware received *CANCER*, a bulletin of Cancer progress and news. This magazine was also sent to all hospitals in the State and the Delaware Academy of Medicine.

Special Issues on Oral Cancer were sent to all the dentists in the state.

Special issues of the 7th International Cancer Progress were sent to each hospital, and a 2 volume set—"The Proceedings of the Second National Cancer Congress" were supplied to the Delaware, Memorial, Wilmington General, St. Francis, Kent General, Beebe, Milford, Nanticoke and Riverside Hospitals. These hospitals also received, "Diseases of the Colon and Rectum."

Monographs of material displayed at the annual meeting in New York and at the symposium put on for the Academy of General Practice in Wilmington, were sent to all physicians. These totaled 92 items.

Films and kinescopes were loaned to nursing schools at Milford, Memorial, St. Francis, and Delaware Hospitals. The practical nurses course at the Brown Vocational School also received them. The Staff Physicians of the Delaware and Kent General Hospitals also availed themselves of this service.

The American Cancer Society paid the expenses of 3 authorities from New York City in the field of cytology to give a Symposium at the Academy of General Practice meeting, unfortunately this was very poorly attended.

II PUBLIC INFORMATION

Physicians on the Board of the American Cancer Society met with members of various clubs and organizations and put on a total of 29 programs. Each program in addition to a medical speaker had also a timely moving picture.

To the schools of the state, 153 film showings were made and 19,932 pieces of literature supplied, along with visual aides. This program also included labor union headquarters, business and industrial houses.

The DuPont Company and the Board of Health has indefinite loan of cancer films. Both organizations report frequent showing of same to groups within their organization.

Three scholarships in Biological Science were given at the University of Delaware.

In summation 106,300 pieces of educational literature, 224 film showings to 16,950 persons and 88 film showings in "paid admission" theatres, along with a feature to 14,000 people, were accomplished in 1958-1959. 18 physicians covered the speaking engagements at clubs and organizations. There were 5 public showings of the Cytology film.

III PROFESSIONAL SERVICES

From the period September 1, 1958 through January 31, 1959 when all Detection Centers were discontinued by the American Cancer Society, there were 928 examinations made in 75 centers. Of these, 719 were repeat examinations and 209 new examinations. Of this total, 231 patients were referred to their physicians for suspicious lesions. In all there were during this time 23 suspicious smears and one positive smear. There was a total of 3 proven cases of cancer—one a breast cancer, one a retroperitoneal tumor and the other a proven case of cervical cancer found by direct smear.

The Cancer Registry was started by the American Cancer Society on February 1, 1959. 170 physicians signified their interest in participating, but to date only 93 physicians have registered 3,813 smears. To date, it is interesting to note, the State Board of Health has not registered any.

IV PATIENT SERVICE

During the fiscal year 1958-1959, 129 new applications for assistance were received. This makes a total of 252 patients receiving assistance. This assistance consisted of furnishing the following needed items necessary for the care and welfare of the cancer patient: namely drugs, hospital beds, wheelchairs, aid with hospital expenses, transportation back and forth to hospitals, home-maker service, colostomy equipment, visiting care, dressings and hospital gowns.

Respectfully submitted,
OSCAR N. STERN, M.D.

LIAISON WITH DELAWARE CHAPTER, AMERICAN HEART ASSOCIATION

As liaison between the Medical Society of Delaware and the Delaware Chapter of the American Heart Association, I should like to present the following brief report:

The program of the Delaware Heart Association as regards research, community service, and education proceeded along lines previously noted in last year's report. Five well organized research projects were supported; the Cardiac Screening Clinic at the Delaware Hospital was continued; speakers and films were supplied for lay groups; a Seminar for nurses was held under our auspices, and the outstanding authority on atherosclerosis, Dr. Irvine Page, of Cleveland, was provided for the May meeting of the New Castle County Medical Society. An exciting new project in community service, namely a Fellowship in Cardiology, was set up at the Delaware Hospital as a pilot study. It is the hope of all of us that this program can be continued.

Respectfully submitted,
EDWARD M. KRIEGER, M.D.

REPORT FROM
DELAWARE ANTI-TUBERCULOSIS SOCIETY

Deaths among tuberculous victims in the state dropped slightly last year, but the number of new cases discovered rose to the highest point in three years.

A total of 172 new cases of tuberculosis were uncovered in Delaware last year, an increase of 15 cases or 9.5 per cent over 1957.

Deaths totalled 38, a decrease of eight as compared with figures for the previous year but still a gain over the 1956 figure of 31.

An estimated 200 cases of active tuberculosis exist undiscovered in the state of Delaware.

The attack on tuberculosis in the state was led last year by the mobile unit teams which took a total of 59,200 small films. Eight hundred ninety-four persons were recalled for confirmatory films, and 116 required medical follow-up. The mobile X-ray units uncovered 49 new cases of TB last year.

The mobile X-ray units are jointly sponsored by the State Board of Health and the Delaware Anti-Tuberculosis Society.

The goal of the Delaware Anti-Tuberculosis Society has been expanded to include the eradication of tuberculosis AND other respiratory diseases. With this slight change in phraseology, the Society embarks on a mission that has been touched only slightly during the past fifty years.

Widespread interest was shown in the first endowed lecture on pulmonary diseases which was conducted at the Alfred I. duPont Institute in March. The lecture was jointly sponsored by the Delaware Anti-Tuberculosis and the Delaware Academy of Medicine.

Dr. J. G. Scadding, dean of the Institute of Chest Diseases, Brompton, London, spoke on the topic, "Sarcoidosis."

Respectfully submitted,
GERALD A. BEATTY, M.D., President

PRESIDENT SHANDS: Next is the election of officers, a report of the Committee on Nominations. Dr. Frelick is the chairman of that elective committee which has met, considered, and presented a nomination for every office except the one of President-elect, made separately by the County Medical Society, which has the privilege of nominating for that year.

DR. FRELICK: The Nominations Committee nominates the officers plus the elected committee.

REPORT OF THE COMMITTEE
ON NOMINATIONS

Vice President Charles Moyer, M.D.
Secretary Norman L. Cannon, M.D.
Treasurer Charles Levy, M.D.
Representative to the Delaware Academy
of Medicine V. D. Washburn, M.D.

COMMITTEE ON THE BUDGET

Charles Levy, M.D.
M. A. Tarumianz, M.D.
W. C. Pritchard, MD.
T. H. Pennock, M.D.
R. L. Klingel, M.D.

COMMITTEE ON MEDICAL EDUCATION

G. Barrett Heckler, M.D.
Laurence L. Fitchett, M.D.
Albert Gelb, M.D.

COMMITTEE ON PUBLIC LAWS

William O. LaMotte, Jr., M.D.
James Beebe, Jr., M.D.
J. Leland Fox, M.D.
J. S. McDaniel, Sr., M.D.
Gerald A. Beatty, M.D.

PROGRAM COMMITTEE

James T. Metzger, M.D.
John Rawlins, M.D.
James Beebe, Jr., M.D.

COMMITTEE ON PUBLICATIONS

A. Henry Clagett, Jr., M.D.
Norman L. Cannon, M.D.
M. A. Tarumianz, M.D.

COMMITTEE ON NOMINATIONS

John W. Alden, M.D.
Frank A. Jones, M.D.
James B. Homan, M.D.
G. M. Van Valkenburgh, M.D.

DELEGATE AND ALTERNATE TO THE
AMERICAN MEDICAL ASSOCIATION
(two-year term)

H. T. McGuire, M.D.
L. M. Dobson, M.D.

BOARD OF MEDICAL EXAMINERS

Joseph S. McDaniel, Sr., M.D.
Andrew M. Gehret, M.D.
James Beebe, Jr., M.D.
Leslie M. Dobson, M.D.
W. Pierce Ellis, M.D.
Charles Levy, M.D.
E. Harold Mercer, M.D.
Harold S. Rafal, M.D.

Respectfully submitted,
R. W. FRELICK, M.D., Chairman
J. B. HOMAN, M.D.
J. W. ALDEN, JR., M.D.
J. S. MCDANIEL, M.D.

PRESIDENT SHANDS: You have heard the report of the Committee on Nominations. What is your desire?

(A motion was made and seconded to accept the report of the Committee on Nominations.)

PRESIDENT SHANDS: Are there any further nominations?

(There was no response.)

PRESIDENT SHANDS: All those in favor of the report being accepted and the Secretary casting a ballot for such will signify by saying "Aye". Opposed, "No".

(The motion was carried.)

PRESIDENT SHANDS: I declare them elected.

PRESIDENT SHANDS: The next is new business. There is an item regarding the addition to the Blue Cross-Blue Shield Board of Directors of representatives from Kent County Medical Society and Sussex County Medical Society. Mr. Secretary, do you wish to read this?

SECRETARY CANNON: It was pointed out to the Council that neither Kent nor Sussex County Societies have any representation on the Blue Cross-Blue Shield Board, and the Council discussed this and recommended that the House of Delegates pass the following motion:

RESOLUTION I

1. Regarding addition to the Blue Cross-Blue Shield Board of Directors of representatives from Kent County Medical Society and Sussex County Medical Society.

Whereas, the Board of Directors of Group Hospital Service, Inc., includes, and properly should include, members of the medical profession, and

Whereas, the New Castle County Medical Society is invited to send official representatives to this Board of Directors, and

Whereas, it is proper and fitting that physicians of Kent County and Sussex County also be represented on this Board of Directors.

Therefore, be it resolved that the House of Delegates of the Medical Society of Delaware ask Group Hospital Service, Inc., to provide for the appointment by the Kent County Medical Society and the Sussex County Medical Society of two physicians, respectively, to represent the medical profession of these counties on the Board of Directors of Group Hospital Service, Inc.

PRESIDENT SHANDS: Are you making a motion to adopt this, Mr. Secretary?

SECRETARY CANNON: Yes.

PRESIDENT SHANDS: Is there a second?

(The motion was seconded.)

PRESIDENT SHANDS: Now, does anyone wish to comment? Is there any discussion?

(There was no response.)

PRESIDENT SHANDS: I think it is certainly very much in the interests of the medical profession to request this. All those in favor of the resolution signify by saying "Aye". Opposed, "No".

(The motion was carried.)

PRESIDENT SHANDS: The next is regarding the Medical Examiner and a proper budget for his office. Mr. Secretary?

RESOLUTION II

Whereas, Senate Bill 265, redefining the duties of the county coroner, is, in the opinion of the Society detrimental to the medical examiner system, and a retrogressive piece of legislation, and

Whereas, the Honorable J. Caleb Boggs, Governor of the State of Delaware, has seen fit to veto this bill,

Therefore, be it resolved that the Medical Society of Delaware believes that the Governor has acted in the best interests of the public, and approves and supports this action, and

Be it further resolved, that this Society calls upon the General Assembly of the State of Delaware to provide funds adequate to operate the office of the medical examiner in an efficient and effective manner.

SECRETARY CANNON: I move that this be accepted.

PRESIDENT SHANDS: The Secretary has made this as a motion. Is there a second?

(The motion was seconded.)

PRESIDENT SHANDS: Is there any discussion? Is there anything you want to say about that. Mr. Morris?

EXECUTIVE SECRETARY MORRIS: Only that the Governor has vetoed this bill at the request of the Medical Society and three other organizations.

PRESIDENT SHANDS: Which includes the Bar Association, is that not right?

EXECUTIVE SECRETARY MORRIS: It has not been officially announced to the best of my knowledge that the Bar asked for it. The State Association of Funeral Directors asked for it. The New Castle County Medical Society asked for it, and the Citizens' Crime Commission asked for it.

PRESIDENT SHANDS: Any other comments?

DR. MCGUIRE: I just wanted to say this: We solicited the Governor's support to veto this legislation. I think that action of this body to thank him for the veto would be proper.

PRESIDENT SHANDS: All those in favor say "Aye". Opposed, "No".

(The motion was carried.)

PRESIDENT SHANDS: Now, Tom, do you want to make your motion?

DR. MCGUIRE: We have been hot on the wire of the Governor to get approval of the thing and I think it would be proper to acknowledge it. I therefore make such a motion.

PRESIDENT SHANDS: There is a motion to send the Governor a word of appreciation for what he has done. Is there a second to this motion?

(The motions was seconded.)

PRESIDENT SHANDS: All those in favor say "Aye". Opposed, "No".

(The motion was carried.)

PRESIDENT SHANDS: Our Secretary will take care of that.

The next one is concerning the two-way radio series. Mr. Secretary, will you read this?

RESOLUTION III

Whereas, the physicians of Delaware are participating in the first state-wide two-way radio network designed especially for medical education, and

Whereas, this project holds great potential for helping physicians to improve the medical care of the public, and

Whereas, these programs could not have been possible without the efforts of The Pennsylvania Hospital's continuation education program, or of Smith, Kline & French Laboratories, or of radio station WHYYY, or of Dr. Fred MacD. Richardson, who has produced these programs,

PRESIDENT SHANDS: I think this is one of the best things that has been done in the State. There were about 50 at the meeting they had here, which I attended, last Tuesday, and if they can all be as good as this one, I think they are going to have a very good graduate education program. There was some difficulty, I understand, in the reception downstate, which I hope will be cleared up, and that they will have as good reception as we had here.

Wherefore, be it resolved, that the Medical Society of Delaware expresses its appreciation to The Pennsylvania Hospital, to Smith, Kline & French Laboratories, to radio station WHYYY, and to Dr. Richardson and the Hartford Foundation.

SECRETARY CANNON: I move the adoption of this resolution.

PRESIDENT SHANDS: Is there a second to this motion?

(The motion was seconded.)

Any further comments or discussion?

All those in favor say "Aye". Opposed, "No".

(The motion was carried.)

PRESIDENT SHANDS: Now, are there any further resolutions?

(There was no response.)

PRESIDENT SHANDS: Any communications, Mr. Secretary?

SECRETARY CANNON: No.

PRESIDENT SHANDS: Mr. Executive Secretary?

EXECUTIVE SECRETARY MORRIS: No.

PRESIDENT SHANDS: Now, the next item is In Memoriam.

During the last year the following physicians have died. I think we might stand up as we read their names and then have a moment of silence at the end.

William N. Fenimore, M.D.

Howard N. Stayton, M.D.

E. Hughes Nutter, M.D.

James G. Spackman, M.D.

John W. Hooker, M.D.

Meredith I. Samuel, M.D.

Alfred W. Pennington, M.D.

George Howard Gehrmann, M.D.

PRESIDENT SHANDS: The next is the selection of a meeting place. Mr. Executive Secretary?

EXECUTIVE SECRETARY MORRIS: The by-laws provide that the meeting of the Medical Society of Delaware will be in Sussex County in 1960 unless this House wishes to fix another place.

PRESIDENT SHANDS: Does anybody wish to comment?

DR. MARVIL: On behalf of Sussex County, I would like to invite the Society to meet at Rehoboth Beach.

PRESIDENT SHANDS: Are there any other invitations?

DR. MCGUIRE: I move the acceptance of Dr. Marvil's invitation.

(The motion was seconded.)

PRESIDENT SHANDS: All those in favor signify by saying "Aye". Opposed, "No".

PRESIDENT SHANDS: Next is miscellaneous business. First, the Council recommends to the House of Delegates that authority be given the Council to present a distinguished Service Award to a lay person for outstanding achievements and/or leadership in the health services field at the 1960 and subsequent annual meetings. The proposal is permissive and does not require the Council to make such an award. This was discussed on two occasions, and is being done in other states. It is good public relations and I am very much in favor of it. It could be awarded at the same time that we make the award to the outstanding doctor in the state—the Distinguished Service Award. I know it may be difficult to select a suitable lay person for this award.

DR. DEWEES: Who would make the selection?

PRESIDENT SHANDS: It would have to be made and approved by the Council. Last year, in the case of the Distinguished Service Award for the

physician, the recommendation was made by the Nominating Committee after the membership had been solicited and a letter sent. I would think that the same mechanism or pattern of selecting would be in order for this award.

A discussion by Dr. H. T. McGuire, Dr. V. D. Washburn, Dr. Charles Walker, Jr., Dr. R. W. Frelick, Dr. J. J. Repman and Dr. E. J. Szatkowski followed regarding the rise in Blue-Cross-Blue Shield admission rates and length of stay of hospital patients.

PRESIDENT SHANDS: I want to say a word about the meeting Thursday and that we hope to have a good attendance at the banquet. I heard from Dr. Orr and he will be here. He will arrive at 10:30 on Wednesday and will be here until Friday morning. He is to talk on his recent trip to Brazil and is supposed to be a very good after-dinner speaker. He may talk on some of the problems in medicine in Latin America as compared to some of our problems. I hope that you will all come.

There are a certain group of lay people here in Wilmington and the state, who are very much interested in problems of the aged, and I would like very much if you think that they would enjoy the afternoon meeting, to invite them to come. I would like to see the 218 seats filled.

On the original program which went out, we did not have all the titles. Dr. Bortz, who is a very excellent speaker is to talk on "The Changing Older Man," and he will start the seminar off.

Dr. Busse, chairman of the Department of Psychiatry, professor of psychiatry at Duke University, a member of the A.M.A. Committee on Aging, will talk on "Common Emotional Problems of the Aged." I have heard him talk and he is excellent. Everyone who has ever heard him talk on this subject has nothing but words of commendation for what he has to say and the way he says it.

The next speaker, Theodore G. Klumpp, is really a great person in medicine. He is president of the Winthrop-Stern Pharmaceutical Company right now, but much more than being a president of a company, he has been a very successful public health officer in Washington. He was chairman of the Hoover Commission Medical Services Task Force and is on the A.M.A. Committee on Aging. His subject is "Must Time Take Its Toll?" which will principally be on when a person should retire.

Then there is Dr. Orr, who has been interested in the aged for a long time. He is a discussant, and Dean Roberts, who is now the Executive Director of the National Society for Crippled Children and Adults, for five years was the Executive Director of the Joint Commission on the Aged, an A.M.A., American Hospital Association, I think maybe American College of Surgeons group. The discussants know quite well the problem and I think that lay people will get a lot out of it.

In conclusion I wish to say a word of thanks to you, the House of Delegates, for being so patient this afternoon. We have accomplished all the business we set out to accomplish. And if the by-laws go through, I will be your retiring officer at the end of the banquet, at which time the gavel will be passed over to Dr. Marvil, and I wish to say thank you.

At 6 o'clock, p.m., October 11, 1959, the House of Delegates meeting was adjourned.

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3. Mathews, F. P.: Am. J. Psychiat. 114:1034 (May) 1958.

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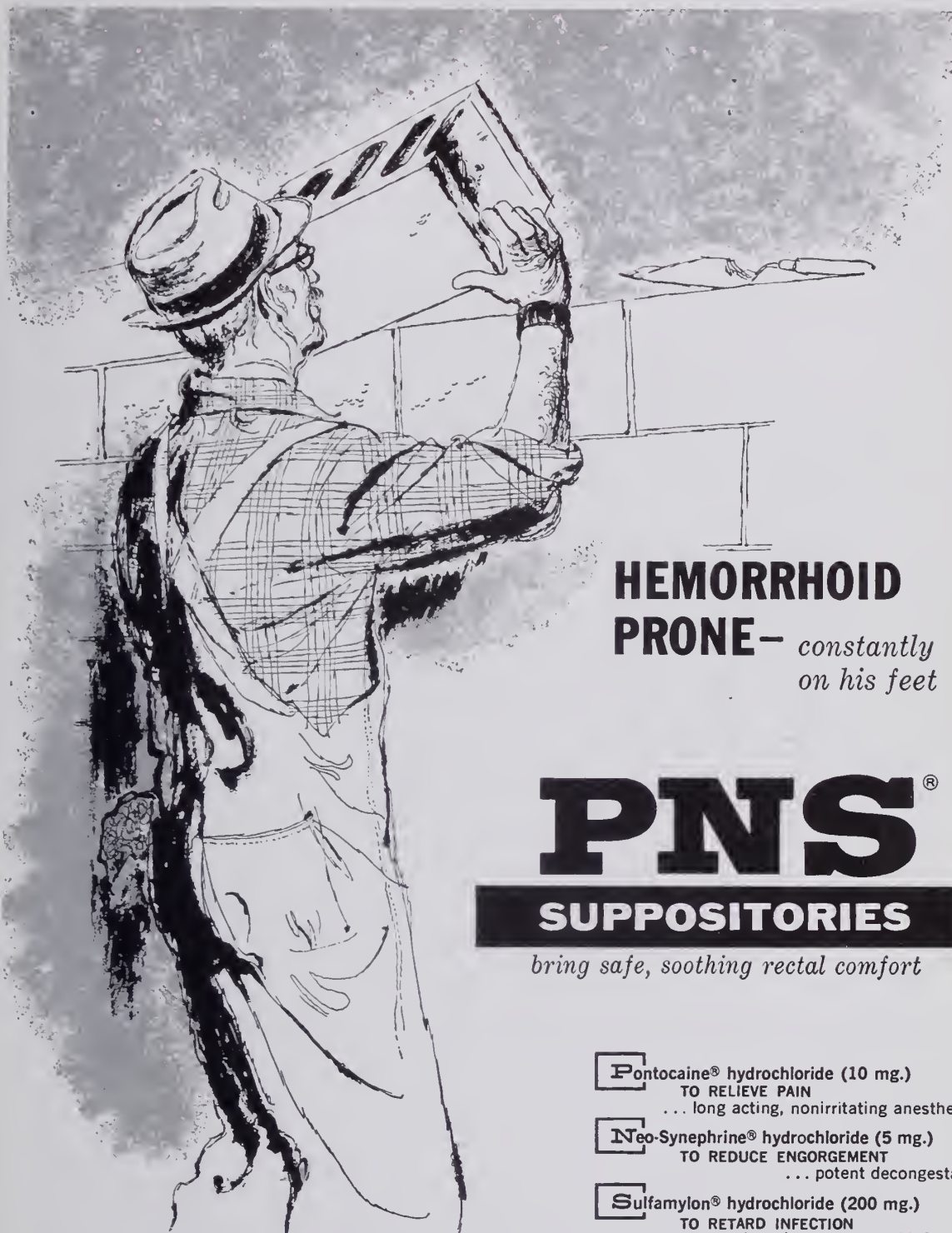
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References: 1. Farah, L.: *Internat. Rec. Med.* 169:379 (June) 1956. 2. Smigel, J. O., et al.: *J. Am. Geriatrics Soc.* 7:61 (Jan.) 1959. 3. Feinberg, A. R., et al.: *J. Allergy* 29:358 (July) 1958. 4. Eisenberg, B. C.: *J.A.M.A.* 169:14 (Jan. 3) 1959. 5. Maryssael, L.: *Bruxelles-méd.* 38:141 (Jan. 26) 1958. 6. Pfleger, R.: *Med. Klin.* 53:1030 (June 5) 1958. 7. Over 200 laboratory and clinical papers from 14 countries.

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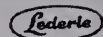
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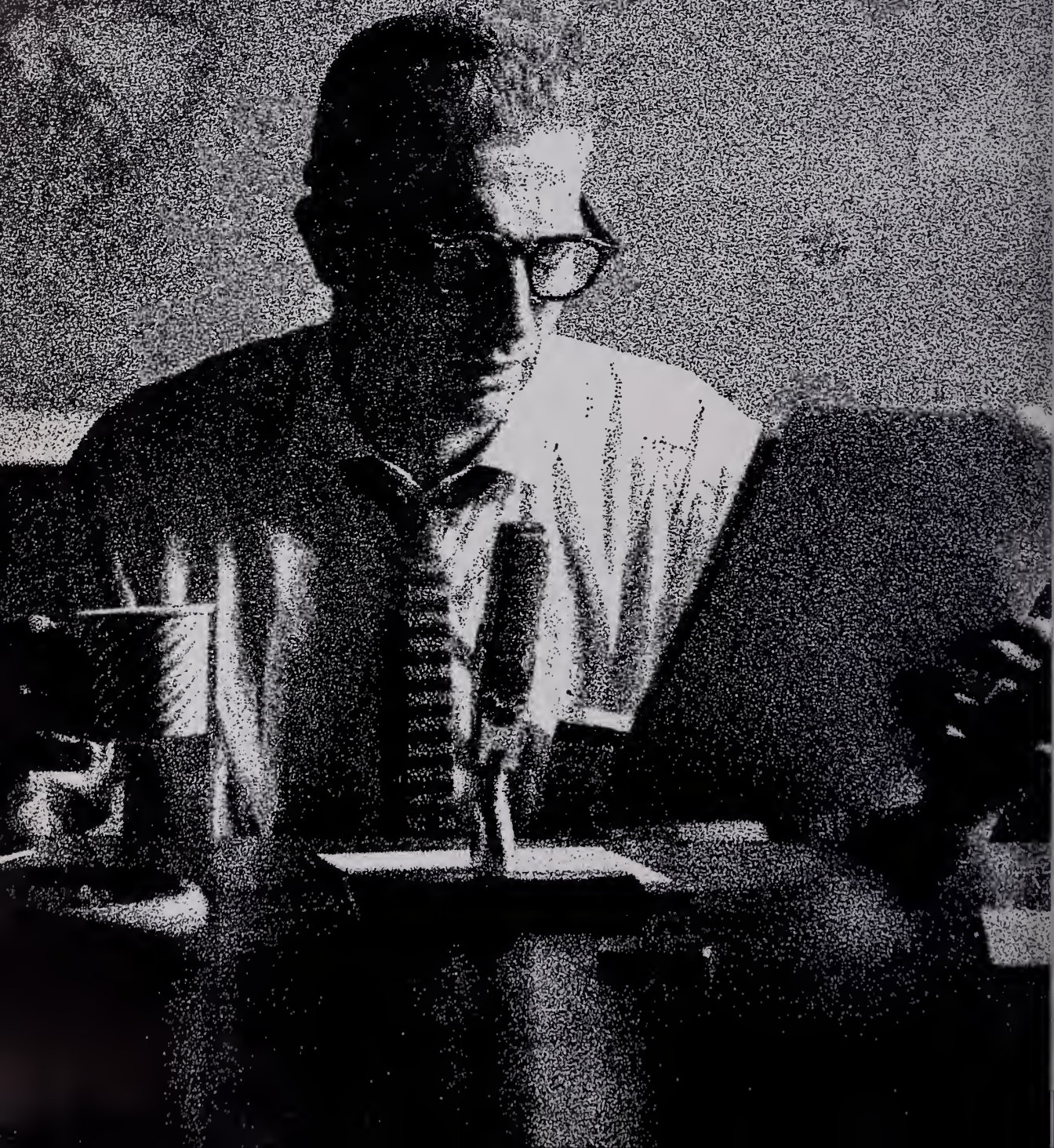
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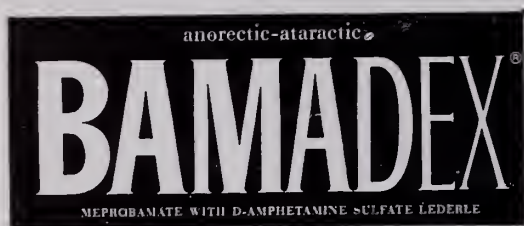


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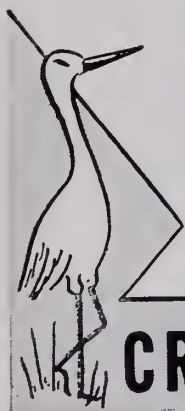


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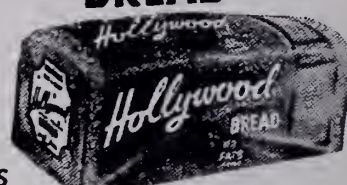
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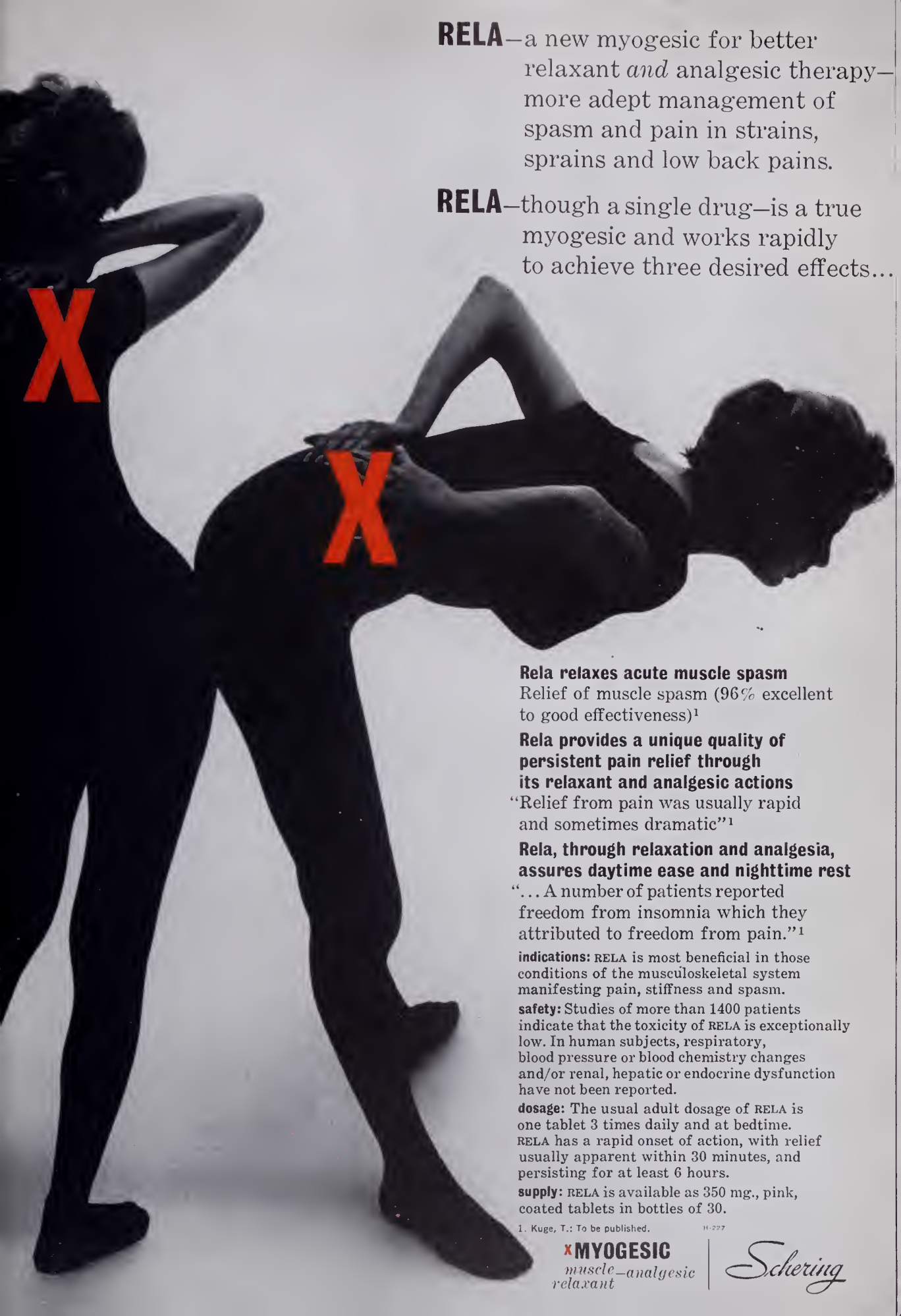
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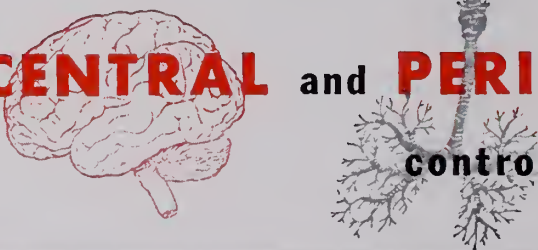
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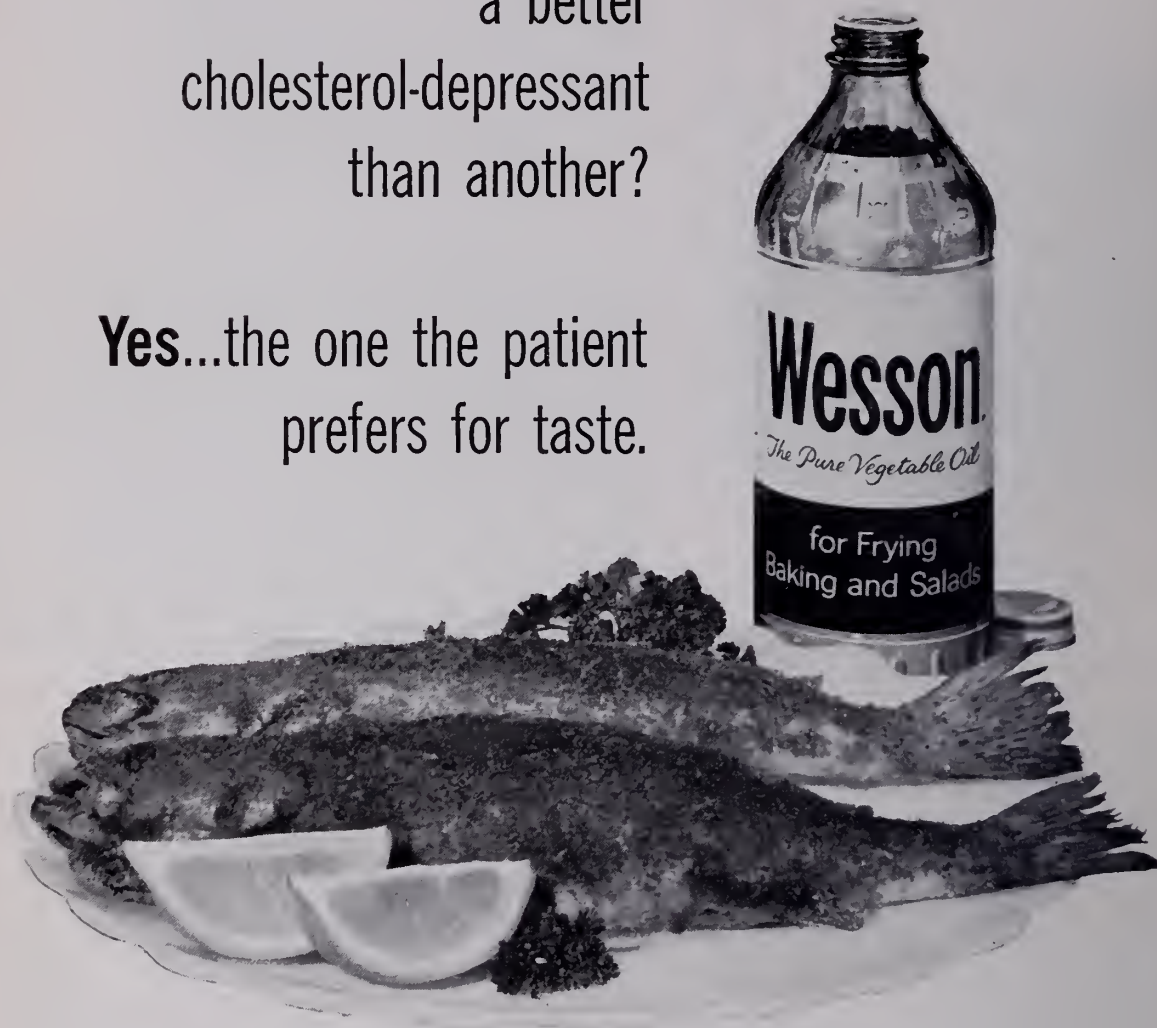
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to prevent the sequelae
of u.r.i. ... and relieve the
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1. Based on estimate by Van Volkenburgh, V. A., and Frost, W. H.: Am. J. Hygiene 71:122 (Jan.) 1933



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It is generally agreed that it is ideal to withhold antibiotic and chemotherapeutic drugs until after sensitivity tests show which antibacterial agent will be most effective. But very often, in actual practice, the physician knows that delay in starting antibacterial treatment may be detrimental to the welfare of his patient. He must then select the therapy to meet the most serious and immediate threats to the patient.

Why Combination Therapy?

Certain infections do not respond as well to a single agent as to a combination. *Hemophilus influenzae* infections, which are frequent in children, are a particularly serious threat to infants and children up to about 3 or 4 years of age since they have not yet built up any appreciable immunity. Serious complications such as influenzal pneumonia, empyema, or meningitis may develop, especially in this age group. In fact, except for those periods when meningococcal meningitis is epidemic, *H. influenzae* is the most frequent cause of meningitis.¹ This gram-negative organism is highly susceptible both to the tetracyclines and to the sulfonamides. Even in severe infections, therapeutic failure can be virtually eliminated by giving sulfonamides plus tetracycline.¹ These two agents together constitute the treatment of choice, and give better results than either alone.²

Sulfonamides remain the drugs of choice for all meningococcal infections, including meningitis. They readily penetrate the blood-brain barrier and pass into the cerebrospinal fluid in good concentrations.³ In treating overwhelming meningococcal infections, and complicating infections of the upper respiratory tract caused by other organisms, the addition of tetracycline to sulfas can be valuable.⁴

In recent years the sulfonamides have again been prescribed more and more frequently. In certain serious infections, better results can be obtained with a combination of antibiotic and sulfonamide than with either drug alone (e.g., severe pneumococcal pneumonia or pneumococcal meningitis⁵). Furthermore, mixed infections, to which young children are particularly susceptible, often respond only to combination therapy such as tetracycline with sulfonamides (TETREX $\bar{c}$ T/S).

Why Triple Sulfas?

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TETREX $\bar{c}$ T/S, by combining only 167 mg. each of sulfadiazine, sulfamerazine, and sulfamethazine, practically eliminates serious renal damage and sensitization reactions due to sulfonamides while retaining the therapeutic efficacy of the total dose.

TETREX $\bar{c}$ T/S can be administered with confidence in all severe and mixed infections due to tetracycline-sensitive and sulfonamide-sensitive organisms, including infections of the upper respiratory, urinary, and gastrointestinal tracts.

References: 1. Alexander, H. E.: The hemophilus group. In: Dubois, R. J.: Bacterial and Mycotic Infections of Man. Ed. 3, Philadelphia, J. B. Lippincott Co., 1958, p. 470ff. 2. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2, New York, The Macmillan Co., 1956, pp. 1322-1323. 3. Beckman, H.: Drugs — Their Nature, Action, and Use. Philadelphia, W. B. Saunders Co., 1958, pp. 527-528. 4. Dingle, J. H.: Meningococcal infections. In: Cecil, R. L., and Loeb, R. F.: A Textbook of Medicine. Ed. 9, Philadelphia, W. B. Saunders Co., 1955, p. 196ff. 5. Goodman, L. S., and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2, New York, The Macmillan Co., 1956, p. 1308.

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Sulfamerazine	167 mg.
Sulfamethazine	167 mg.

This suspension may be stored at normal room temperature.

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- Modifies central perception of pain without abolishing natural defense reflexes
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- More specific than salicylates
- Less drastic than steroids
- More effective than muscle relaxants

SOMA has an unique analgesic action. It apparently modifies central pain perception without abolishing peripheral pain reflexes. **SOMA** is particularly effective in relieving joint pain. Patients say that they feel better and sleep better with **SOMA** than with previously used analgesic, sedative or relaxant drugs.

SOMA also relaxes muscle hypertonia, with its stresses on related joints, ligaments and skeletal structures.

ACTS FAST. Pain-relieving and relaxant effects start in 30 minutes and last 6 hours.

NOTABLY SAFE. Toxicity of **SOMA** is extremely low. No effects on liver, endocrine system, blood pressure, blood picture or urine have been reported. Some patients may become sleepy, particularly on high dosage.

EASY TO USE. Usual adult dose is one 350 mg. tablet 3 times daily and at bedtime.

SUPPLIED: Bottles of 50 white coated 350 mg. tablets.

Literature and samples on request.



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—EASES MUSCLE
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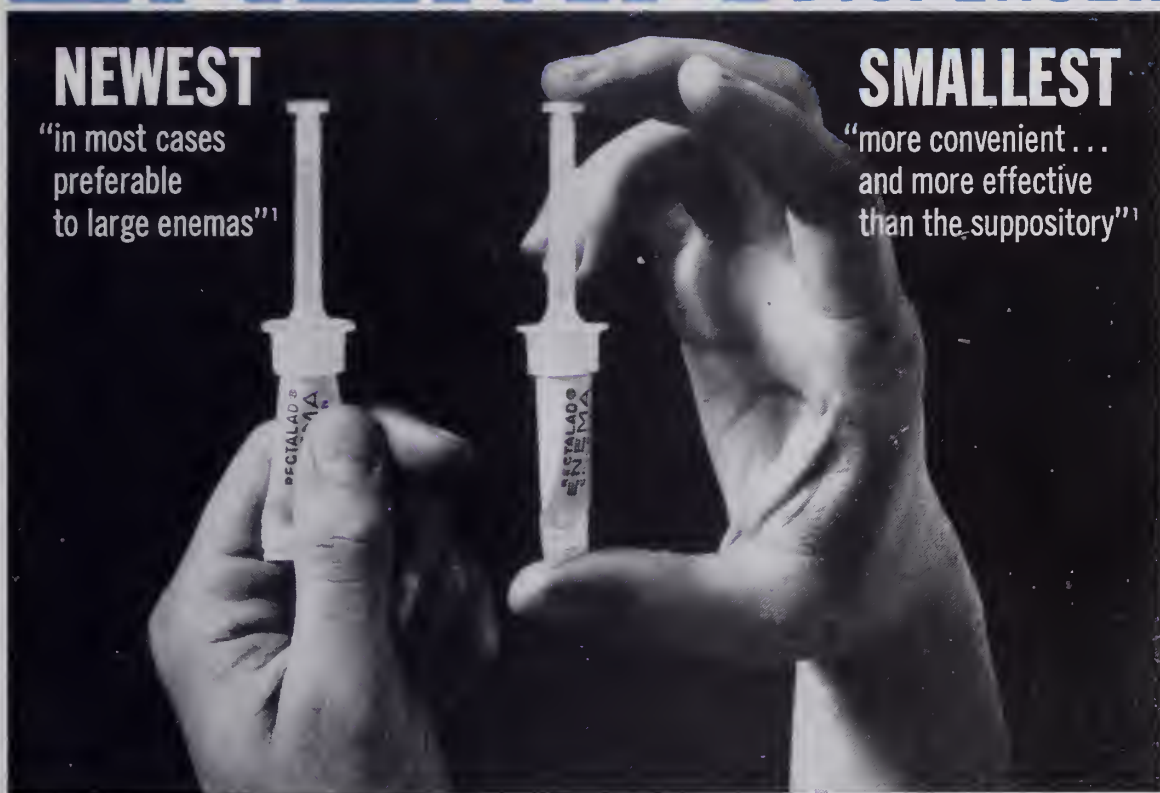
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Topical action triggers the defecatory reflex to produce natural peristalsis in the lower bowel only. Wetting agent spreads ingredients to lubricate and soften the fecal mass for easier passage. Results are rapid² and, in over 90% of patients, completely satisfactory.^{1,3} Economical RECTALAD MINIATURE ENEMA is not absorbed, does not disturb fluid-electrolyte balance and is well tolerated by patients of all ages.

RECTALAD[®] MINIATURE ENEMA contains glycerin, sodium stearate, dioctyl sodium sulfosuccinate and water in a self-contained disposable unit. For your prescription or recommendation: 5 cc. adult size and 2 cc. pediatric size. Samples available on request.

References: 1. Aries, P. L.: J.A.M.A. 169:708 (Feb. 14) 1959. 2. Personal Communication on file at Medical Department, Wampole Laboratories. 3. Reports of clinical trials by 9 physicians.

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when upper
respiratory congestion
is complicated
by bacterial invaders

TRISULFAMINIC provides logical therapy

- for the patient ill with congestion and infection of the upper respiratory tract, as in purulent rhinitis, sinusitis, tonsillitis and otitis media, when caused by sulfa-susceptible bacteria;
- because secondary invasion by such bacteria so frequently follows the common cold.¹

the reasons for combining Triaminic with triple sulfas

Triaminic and triple sulfas are not only pharmacologically *compatible*, they are a therapeutically *logical* combination for upper respiratory infections: Triaminic for effective decongestant relief from rhinitis, rhinorrhea and sinusitis;² triple sulfas for well-established antibacterial action.

The advantages of Trisulfaminic in upper respiratory infections include: proved effectiveness; safety; economy; ease of administration; less likelihood of sensitivity reactions;³ compatibility with antibiotics and other antibacterial therapy. Provided also as Suspension for additional convenience.

Trisulfaminic®

TRIAMINIC WITH TRIPLE SULFAS

Available as TABLETS and SUSPENSION

Each easy-to-swallow Trisulfaminic Tablet or 5 ml. teaspoonful of Suspension provides:

Triaminic® 25 mg.
(phenylpropanolamine HCl 12.5 mg.
pheniramine maleate 6.25 mg.
pyrilamine maleate 6.25 mg.)
Trisulfapyrimidines, U.S.P. 0.5 Gm.

Dosage:

Adults—2 to 4 tablets or tsp. initially, followed by 2 tablets or tsp. every 4 to 6 hours until the patient has been afebrile 3 days. *Children 8 to 12*—2 tablets or tsp. initially, followed by 1 tablet or tsp. every 6 hours. *Children under 8*—dosage according to weight.

The palatability, convenience and effectiveness of the Suspension make it especially suitable for children and for those older patients who prefer liquid medication.

References: 1. Cecil, R. L., et al.: J.A.M.A. 124:8 (Jan. 1) 1944. 2. Fabricant, N. D.: E.E.N.T. Monthly 37:460 (July) 1958. 3. Beckman, H.: Drugs, Their Nature, Action & Use, Saunders, Philadelphia, 1958, p. 527.

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska

*whenever there is
inflammation,
swelling, pain*

VARIDASE STREPTOKINASE-STREPTODORNASE LEDERLE BUCCAL

Tablets
conditions
for a fast
comeback



as in episiotomy

VARIDASE Buccal provides a simple, natural way to faster, early healing. By activating the fibrinolytic enzymes responsible for normal recovery, VARIDASE shortens the catabolic phase of host response and reverses inflammatory reaction. Edema is reduced.

VARIDASE is not an anti-infective, but by increasing the permeability of the fibrin wall, it eases penetration of natural regenerative factors and fosters healthy tissue growth, making infection less likely.

VARIDASE Buccal Tablets contain: 10,000 Units Streptokinase and 2,500 Units Streptodornase.

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- 'Deaner' *is not a monoamine oxidase inhibitor*; hence it is not necessary to monitor its administration with repeated, expensive laboratory tests.
- This notable freedom from side effects endows Deaner's long-term administration with easier patient supervision, better patient cooperation, and greater safety.
- Dosage is simple—initially, 50 mg. (2 tablets) daily in the morning. *Gradually, apathy and defeat are transformed into affability and renewed interest and vigor.*

Write for details and the applicability of
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NOT RENEWABLE AFTER 6 WEEKS

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